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VOLUME 45

IN THE SUPERIOR COURT,

State of California, County of Sacramento.

OCTOBER SESSION, 1881.

HON. JACKSON TEMPLE, - - - - - PRESIDING JUDGE.

WINFIELD J. DAVIS, OFFICIAL REPORTER.

SAMUEL OSBOURNE AND WILLIAM M. CUTTER, REPORTERS.

The People of the State of California,
vs.
The Gold Run Ditch and Mining Co. }

COUNSEL:

For Plaintiff,

HON. A. L. HART, Attorney General, GEORGE CADWALADER, ISAAC S.
BELCHER, A. L. RHODES, RICHARD BAYNE.

For Defendant,

J. K. BYRNE, W. C. BELCHER, S. M. WILSON, W. T. WALLACE, A. B.
DIBBLE, A. P. CATLIN.

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Monday, January 23rd, 1882.

13069.

In the ⁴⁵ Superior Court
of the State of California
in and for the County of
Sacramento.

The People of the State of California	} Morning Session Monday Jan'y. 23/82.
vs The Gold Run Ditch and Mining Company	

Testimony
of
Darius Hulbert.

Called for plaintiff in rebuttal. sworn.

Mr. Hart. Where do you reside Mr.
Hulbert? A. In Butte County.

2. What part of Butte County?

A. I reside in the westerly portion
of Hamilton township.

2. What is your occupation?

A. Farmer.

2. Are you acquainted with Louis
Posey? Ayes.

2. Where does he reside with refer-
ence to your place?

A. He resides near Biggs in Hamilton township.

Q. Do you know whether or not he raised a crop on what was known as the slickens land belonging to the Cherokee Company in 1877?

A. Together with the other parties that were interested with him.

Q. Who harvested that crop?

A. I harvested it myself together with a brother that was engaged with me at the time.

Q. How many bushels to the acre did it raise?

A. There were three several pieces of land harvested, that we had a knowledge of the amount raised.

Q. What was the amount per acre?

A. I could not tell you just what each piece of the several lands produced, but there was ~~one~~ ^{one} and one was —

Q. (Int'g.) 20 what?

A. Bushels.

Q. And the other kind was what?

A. One was a little less than 25 and one was a little more than 26 $\frac{1}{2}$ bushels.

Q, What kind of land was that so far as slickens was concerned?
Describe it to the Court?

A, It was land that had been nearly deposited there; it was old. There had been no new deposit upon it, within the last few years, prior to this time.

Q, It was old slickens? Ayes.

Q, Do you know a man by the name of Keppel?

Ayes.

Q, You know his initials?

A, His name is Saret Keppel.

Q, Do you know what kind of land he has been farming?

A, He has been farming on adobe land.

Q, Has he been farming any slickens' land so-called?

A, He has been farming some pieces of slickens land together with the other.

Q, Has it produced any crops?

A, He has produced poor crops, some poor crops — some very poor crops. Some grain has grown.

2. Was it worth harvesting?

Mr. Belcher, let him tell without suggestion.

a. I think he has harvested all the grain on his own slickens land with very little exception.

2. How much to the acre was there on the slickens land?

a. I could not tell you, but he professed to believe —

Mr. Belcher. Dutg. No matter what he professed sir.

The Witness. He harvested grain that did not make more than three bushels to the acre at times.

Mr. Glout, Do you know of any others who are farming slickens land along the line of the canal from the Cherokee Mining Company's a. The land that Mr. Rogers farmed some years ago was slickens land in part.

2. With what success did he farm that?

a. With indifferent success as I understand it.

2. Do you know a man named Crusic?

a. Yes.

2. Where does he farm?

A. He owns a piece of land that adjoins the land of Mr. Keppel.

Q. Where did that get its slickens if it had any?

Mr. Belcher, I object to that question.

It is immaterial.

A. The slickens did not come principally from the canal.

Mr. Hart. It did not? Who sir.

Q. Did any of it come from the canal?

A. I think a very little portion.

Q. What ^{kind} mine did it come from?

A. It came from the Cherokee.

Q. What mine did it come from?

A. It came down the channel of old Rye Creek from the Cherokee.

Q. From the Cherokee? Yes.

Q. What kind of crops did Crusic's land produce in 1874, say?

A. The crop was a very poor one.

Q. Was it harvested?

A. It was not; only a very little portion of it.

Q. Where does the canal end? Where is the mouth of the canal?

A. The canal at this time terminates in Section 33, Township 12 north, of Range

One east.

Q. State whether or not there was a crop sown on that section in 1875?
A. There was.

Mr. Belcher. I object to that question. It is immaterial and not in rebuttal. The Court overruled the objection and

Ex counsel for the defendant excepted.

Mr. Hart. You say there was none?
A. Yes.

Q. State whether or not that land produced a crop, and if so, what kind of a crop?

A. The crop was very nearly destroyed — the crop sown in 1875 and harvested in 1876.

Q. What was it destroyed by?

A. The deposit from the mouth of the Canal — from the mouth of the canal.

Q. Do you know Warren Green's land?

A. Yes.

Q. Did he ever use the slum or slickens from that canal?

A. He used the slum water in the fall of 1880.

Q. In the fall of 1880?

A. Yes.

2. What did he use it for?

A. For the purpose of starting out-
and chess that had fallen on the
land the previous year.

2. With what success did he do that?

A. The land was subsequently plowed
and sown and ~~no~~ crop whatever
was raised.

2. State ~~whether~~ whether or not
slum or slickens from that canal
has been used along the line of
the canal as a fertilizer and
whether or not it has proved to be a
fertilizer generally.

A. I do not know of a single in-
stance where it has been used ~~as~~^{as}
a fertilizer. It has been used to
fill up hog wallows - holes and
low places in ~~lakes~~.

2. Compare the yield from slickens
land, along the land of that
canal, with the yield of other
land on which slickens has not
been deposited?

A. I do not know that I can
do so very well.

Mr. Bolcher. I object to this testi-
mony unless he takes the same land.

The Court. Take the same land ~~in~~ regard to the same line. — Confine your answer to that.

A. There was better crops raised in the same year —

Mr. Belcher. We object now. He should take the same land.

The Court Compare it to the same soil having the sickens on it — after and before.

Mr. Hunt The same soil before and after the sickens had been put on it and not any other piece of land.

A. The land on which the sickens run at this time — the land referred to was a very excellent character of adobe land.

Q. It was of very excellent quality.

A. Yes; very excellent quality. I was acquainted with it before and it was regarded as the best land in the valley.

Q. What was the yield before and after?

A. It was never farmed before the sickens were run on it.

Q. None of it?

A. No sir, not the

portion referred to.

2. Which portion?

A. The portion Mr. Posey had in 1872.

2. Take any other part?

A. There was other land handled above there before. I believe I am not allowed to refer to that other.

2. Any other land that has sick-ens on it. Take for instance Warren Green's land, if that had been farmed before; or Keppel's land, or Colby's land?

A. I can answer with reference to Mr Green's land.

A. Yes. A. Mr. Green has raised better crops on his adobe land than was ever grown on that same land, or was grown in that year.

2. How much better?

A. Something about 20 bushels better to the acre.

2. 20 bushels better to the acre. A. Yes.

2. How about Colby's land?

A. I am not acquainted with Colby's land.

Q. How about Keppel's land?

A. Keppel has never produced as large crops as his neighbors around him.

Q. Never has produced as large crops as his neighbors around him?

Answer.

Q. Speak with reference to his land before and after slickens were put on it, if you know.

A. I do not know.

Q. How far is it from the terminus of this canal to the tubes?

A. Between five and six miles.

Q. In what creek does the canal empty at its mouth?

Mr. Belcher, We object to that question. It is leading.

Mr. Hunt Where does it discharge?

A. It discharges in the tubes.

Q. Where is Dry Creek with reference to the terminus of the canal?

Mr. Belcher objected to the question upon the ground that it was immaterial.

The Court What is the materiality of this?

Mr. Hunt I desire to show in an

- over to Mrs. Robinson, that this
 slickens emptied into Dry Creek;
 that it has filled Dry Creek from
 the point it has emptied into it - to
 Butte Creek, and that it has filled
 Butte Creek from there to the point
 where it sinks into the tules of
 Butte County carrying with it an
 immense amount of slum as far
 as it runs and from that on to
 the tules of Butte County. That is
 in answer to Mr. L. L. Robinson's testi-
 mony, who said that he had
 pursued this creek from the mine
 down and that he had found
 that the water became clear -
 as clear as it was when it went
 from the pipe. I want to show
 that he was mistaken in
 relation to Dry Creek and I
 want to show the fill in Dry
 Creek by this canal and to
 show the amount of stuff that
 it carries. We want to show
 that this creek never did fill
 any until this mine commenced
 operating, although there were
 vast farming operations on its

banks and stock-raising in the mountains.

Mr. Belcher. We have objected to this testimony that it is immaterial and not in rebuttal.

Q The question was temporarily withdrawn to allow counsel to examine the testimony of Mr. L. L. Robinson about which a dispute had arisen.

Mr. Hart State whether or not the waters from this canal ever get into Butte Slough?

A Yes.

Q Butte Slough or Butte Creek or Butte Slough.

A Where? A At a point five or six miles below the terminus of the canal.

Q Butte Slough? A No sir.

Q Butte Slough is 14 miles below the canal?

A I have reference to the tides.

Q Did you say Butte Slough?

A I am not acquainted with that section of the country. I misunderstood your question.

Q I refer to the slough that puts out of the Sacramento River

about $1\frac{1}{2}$ or $2\frac{1}{2}$ miles below Colusa?

A. I am not able to answer.

Q. You do not know anything about that slough?

Ans sir.

Q. Where does the water and debris from this canal go to? Describe its course?

A. Before the canal was built?

Q. Now?

A. At this time?

Q. Yes.

A. It follows a course from the mouth of the canal to the till lands and from there into the lands below and into Butte Creek that lies immediately to the west.

Q. State whether or not it goes into Dry Creek?

<Mr Belcher objected to the question upon the ground that it was leading.>

The Court. That is the same question that you asked before.

A. There is no Dry Creek there^{now}.

Mr Hart. I mean where Dry Creek formerly was?

A. Yes it has entirely filled it up with debris.

2. How much of that land in that tide basin has been filled by this debris?

The Court. From the canal.

Mr. Belcher, I object to that question. It is not in rebuttal.

The Court overruled the objection and counsel for the defendant excepted. >

Mr. Belcher, As I understand it the Court admits these questions as in rebuttal and not as a matter of discretion with the Court?

The Court. Yes sir.

The Witness. The country is covered up to a width from half a mile to a mile and a half.

Mr. Hurt, State whether or not this covering up has all been since the construction of the canal by the mining company? < Mr. Belcher objected to the question as leading. >

Mr. Hurt When was the filling done? When was the covering up of this land done?

A: Principally since the completion of the canal to the present point.

2. When you say "principally" what

do you mean?

A. I mean the larger — the majority portion of the filling.

Q. State how far down this Butte Creek or down the stream made by this canal and this water, you have followed?

A. But a few miles.

Q. But a few miles?

A. Yes. Perhaps 8 miles beyond the terminus.

Q. Eight miles below the ^{mouth} of the canal? A. Yes.

Q. Where does that take you to?

A. That takes — following down in the tule lands where Butte Creek and the tules are lost together. There is no means by which you can distinguish them.

Q. Is there any Butte Creek now from the point where the canal puts in down?

A. I am not able to answer.

Q. Do you know whether it has been filled up?

A. I do not know that.

Q. You do not know? A. No sir.

Q. From the point ^{to} where the

usual puts in?

A. Beyond about 8 miles below I am not acquainted.

Q. Has it been filled up as far as you have gone?

(Mr. Belcher objected to the question upon the ground that it was leading.)

Mr. Hunt: What effect has this water had upon Butte Creek, as far as down as you have gone?

A. It has served to fill it up and destroy it.

Q. State whether or not down to that point, that you have followed, the stream has become clear?

State what effect the running of the stream has had upon the water at that point?

A. The waters are dark turbid, muddy character.

Q. Describe the waters to the Court?

A. Where it enters the tide it seems to be thick; not as thick as syrup but it crowds its way along. - It seems to move in a body agitated by its own

volume - weight.

Q And from that down it is not so muddy? A. As you go further down, it ~~it~~ discharges its debris to some extent; but it is still muddy water.

Q. About how muddy as compared ^{day} ~~was it~~ to the Feather River after it gets in the still water.

(Mr Belcher objected to the question on the ground that comparison is not one that will commend itself to the Court; because no proof has been made in regard to the Feather River.)

Ex The Court overruled the objection and counsel for the defendant excepted.

The Witness. It is about the same character.

Mr Dant. After it gets in still water? yes.

Q. Have you never seen it where it leaves a lake where the still water is and goes below?

A. I have not - not in late years.

Q. You have not been near it?

Ans sir.

2. Do you know what the color of that stream was prior to the time this canal was put in there?

A. It was a clear stream of water.

2. When you speak of slickens coming down to this distance in this canal, what do you mean by "slickens"? — eight miles below its mouth?

A. I mean this debris that flows down from these mines.

2. What is it composed of?

A. I am not able to say.

2. Do you know any of its ingredients?

A. Pipe clay I think I recognized, for I have once been a miner; and sand.

2. What kind of sand did you see there?

A. I have seen no sand down as low as the rules.

2. Where did you see sand the lowest down?

A. I saw sand about opposite French Crossing and above.

2. Above French Crossing? A. Yes.

2. How far is that below the canal — below the mouth of the canal? A. Something like a mile and a half, perhaps a ^{little} less.

2 State whether or not you know anything about Dry Creek as to the use to which the adjacent lands have been put for a number of years previous?

Mr. Belcher - Objection; that it is in in rebuttal.

Mr. Hart - I want to show farming upon Dry Creek at an early day, in the mountains as demonstrating that it does not make any considerable amount of natural wash - farming and stock-raising. It is a question upon which General Bidwell was examined but he said he was not well posted.

The Court - On the upland.

Mr. Hart - On the land in the mountains - yes.

Mr. Belcher - But that would ^{not} be a legitimate answer to the question?

< The Reporter read the question >

< Objection overruled, defendant excepting >

A - As to lands lying on Dry Creek in the mountains I am not enabled to answer.

2 I mean the foot hills; do you know anything about them?

A. Immediately below the foot-hills and along the lower foothills it has been early farmed and devoted to stock-raising.

Q-What was the nature of the Country there along that Creek?

A. It was of a sandy, and gravelly character.

Q- Whether rolling or flat?

A- Rolling.

Q- A Rolling Country?

A- Yes.

Q- Running to or from the creek?

A- To the creek. The water shed was into the creek.

Q- About what was the fall from or towards the creek?

A- Oh it was various from a half foot to one hundred feet along the lower foot-hills

Q- A half a foot to one hundred feet to the mile?

A- Yes.

Q- How long has there been stock-raising and farming there?

A- About as early as 1860

The Court Is this to prove the effect of farming as so on on this creek?

Mr Hart- yes.

The Court- Mr. Green gave you very succinct information about it.

Mr. Hart- That was in relation to Storey Creek not Dry Creek.

The Court- He spoke of all the creeks.

Mr Hart- That was on the other side of the ridge.

The Court- He spoke of every thing; he spoke of the nature of all the creeks everywhere. I suppose if you are satisfied to accept that testimony the other side would be. We have all seen those things at different times, and it is hardly worth while to consume more time about it. The general effect of those things ~~was~~ described by Mr. Green and seemed to be very intelligently described - if you are satisfied with it.

Mr. Hart- I am satisfied with it.

Cross-Examination

Mr. Belcher- Where do you say you live?

A- I live in the western portion of Hamilton Township Butte County.

2- Whereabouts with reference to the town of Biggs?

A- I live south of the town of Biggs.

2- How far?

A- Five miles.

2- How far away from the Feather River?

A- About 14 miles.

2- 14 miles Westerly?

A- Yes.

2- How long have you lived there?

A- At the place where I live now I have lived since February a year ago.

2- Where had you lived before?

A- I lived six miles north of where I now reside and two miles east, on the adobe lands.

2- Just on the edge of the Adobe?

A- No. Out in the midst of the adobe.

2- How long had you lived there?

A- I had lived there since 1870.

2- Had you been mining before that?

A- Yes.

2- Where?

A- In Sierra County.

2- Whereabouts? A- Howland Flat.

Q You went there in 1870 then from Howland Flat?

A No.

Q Do you say no?

A I say no. You asked me where did I go from there?

Q Yes?

A I went from Sutter County.

Q How long had you been in Sutter County?

A I had been there something like five years.

Q What portion of Sutter?

A Near Yuba City, opposite the City of Marysville.

Q Now you say you have been down along the canal. From what point?

A From what we term the Mc Neil Bridge on the Cherokee Canal.

Q Down how far?

A Down something like eight miles below that.

Q Below the Mc Neil Bridge?

A Yes.

Q And that is the extent of all that you have observed the canal?

A No it is not.

Q Well I ask you how far you have been on it

and about it?

A. The canal does not extend in that direction.

Q. In what direction?

A. South west. That is about the terminus of the canal right there.

Q. Well I ask you what portion of the canal you have examined and know about?

A. I am acquainted with the canal from its terminus to the Railroad—that is, the mouth.

Q. From its terminus up to the Railroad?

A. Yes.

Q. And that is all is it?

A. No. I think not. I am somewhat acquainted above but I am better acquainted with that portion.

Q. When did you first go to that country?

A. I first was in that country in 1838

Q. Just passing through it?

A. No. I bought land there at that time?

Q. Where?

A. I bought land five miles west of what is now Gridley Station.

Q. Five miles west of Gridley Station in 1838?

A- Yes.

Q- Of whom did you buy?

A. Of the Government of the United States.

Q- Did you farm it?

A- To some extent.

Q- Then?

A. Subsequent years, not just then.

Q- What?

A- In after years.

Q- When?

A- I think I did a little farming in 1861?

Q- On that land?

A- Yes.

Q- In 1861?

A- Yes.

Q- Did you raise a crop on it?

A- I think a poor crop.

Q- How much? A- I am

unable to say.

Q- Did you plow one hundred acres?

A- Perhaps I did not.

Q- But do you not know you did not?

A- I am not certain of that.

Q- When did you last go down on that land below the mouth of the

Canal?

A- On the 14th day of Last October.

Q- For what purpose?

A- I was hunting an ax that a miner had carried away.

Q- And in hunting the ax you went down eight miles below the canal?

A- Yes.

Q- How long were you gone?

A- Several hours, - quite a long time - half a day. I lost half a day hunting my ax.

Q- Half a day hunting an ax that somebody had carried off?

A- Yes.

Q- You went down eight miles below the mouth of the canal? And how far below your residence?

A- My residence is something like a mile to the south - one and a half miles to the south - but not in the -

Q- (Interrupting) South of what?

A- South of a point north from my house on the canal.

Q- That is, south of Sec. 33-17-2. What Township do you live in?

A- I live in 17.

Q 17, one east or two east

A One east.

Q What section?

A Section three.

Q Now the end of the Canal is in 33-17-2? Is it not?

A I made a mistake in stating the exact point of the terminus of the Canal. It is in Sec. 33 T. 18 N. R. 1. E.

Q In 18-1?

A Yes.

Q You are positive about the location now?

A Yes.

Q That it is in 18-1, not 17?

A Yes. That is correct.

Q Is that the only time that you have been down there?

A No it is not.

Q When did you go down there before?

A I had occasion to cross that country and traverse up and down this section of country a year ago last summer frequently.

Q Now you have been down you say to French Corral?

A. French Crossing,

Q. I meant French Crossing when I said French Corral. When were you first there?

A. As early as 1839.

Q. Do you mean to say or did you mean to say here that Butte Creek or the channel of it at French Crossing or at any point in the course of that Creek had been filled by deposit coming from this mining?

A. I did not state that Butte Creek was filled at French Crossing.

Q. Or at any point I ask you?

A. I say there were deposits in it to its destruction where it met with the tules and they were mingled together.

Q. Where does it meet with the tules?

A. Some miles below.

Q. Some miles below French Crossing?

A. Yes.

Q. How far below?

Mr. Gant. What is that which meets with the tules?

A. Butte Creek, where it joins with the tules and they are lost together. Something like 3 miles I would answer

Mr Belcher. Three miles below. I will ask you if in any part of the course of Butte Creek there is any fill coming from this canal not above this point.

A- At any point, I do not care where, in Butte Court.

A- I have stated at this point where Butte Creek and the tules join together there is filling. I so stated.

Q- Is that the question that I asked you?

A- Is not that the question?

Q- Again I ask you if at any point where Butte Creek ever had a channel since you knew it there is any filling coming from this canal.

A- I did not so understand that as being the question. But at this point where they join together, why the slum is scattered all over this section of the country where the tules are.

Q- Is that the question that I asked you? Do you understand what the question means?

{ Reporter read }

A- At this point that I mentioned?

Q- Did it have a channel there?

A- I think it had.

Q. Do you know that it had?

A. It has a channel just above

Q. Do you know whether it ever had a channel there or not?

A. I only arrive at this as a matter of conclusion, seeing this channel just above, that it could not have stopped so short, for there is sediment and deposit just right there in the water.

Q. Do you know anything about the channel of Butte Creek above that point?

A. I think I do.

Q. How far?

A. I think I am acquainted with the channel of Butte Creek for a number of miles above.

Q. Above?

A. Yes.

Q. Do you know whether Butte Creek brings down a considerable amount of sediment itself?

A. At what time?

Q. At any time.

A. During the last two years there has been some sediment being deposited there - within the last two years.

Q. Is it not a fact that it has brought

down a very considerable amount of sediment for the last ten years?

A-No.

Q-That you state of your own knowledge do you?

A-Yes, yes, Along the point that I am acquainted with, taking it a few miles..
Now what is called Schaeffer point.

Q-Very well. From Schaeffer point down?

A-To French Crossing?

Q-From Schaeffer point down to French Crossing?

A-Certainly.

Q>You say it did not carry it?

A-It did not. Not in former years.

Q>You have been there in times of flood. In summer it carries no water does it there?

A-Scarcely ever dry.

Q-Not dry, but is there any flowing?

A-I mean water flowing.

Q>You mean there is water flowing?

A-I mean there is water with the exception of two summers during the time I have been acquainted with that country, when it ceases to flow.

Q>You say it did not cease to flow. How much water was there flowing in it

in summer?

A. Oh a small quantity.

Q. How much in miners inches in the month of August or September?

Mr. Hart - If he knows

Mr. Belcher. He says he has been a miner for a good many years and I think he ought to know.

A. I believe miners inches are determined by the fall, giving a six inch pressure.

Mr. Belcher. Can you form any judgment about the quantity of water ~~which~~ the flowing measured in miners inches?

A. I think I can by reflecting a moment.

Q. Well reflect then.

A. Well it was something like twelve feet in width and one foot in depth. Those are my estimates.

Q. Flowing with a current of about how much?

A. I am not enabled to say.

Q. You could say whether it would go as fast as a very slow man would walk?

A. There are large stretches along

Butte Creek that have no current, while there are other little higher places where the water flows over.

Q. Just flows?

A. Slowly, slowly.

Q. So that you can just say that it flows there in the summer time?

A. I had occasion a short time ago to make an estimate of the speed of the water flowing through the Cherokee Canal and only from my idea from that. But I will state I believe it flows across those high places in Butte Creek at the rate of about one and three quarters or two miles to the hour across those points.

Q. And those are the exceptional points in that part of Butte Creek?

A. So far as I am acquainted.

Q. Now as to Butte Slough down below and whether those waters go into Butte Slough or not you did not know I understood you. Have you ever been along the road from the crossing towards Morn Ferry and up along on the west side of Butte Slough, say within the last seven or eight years?

A. I have not - no. I have crossed what

is called the old Rocky road from Marysville.

Q That is still further below. That is after the waters of Butte Slough have come in? Then whether the water passes through there into Butte Slough clear or not, you do not know?

A - I am not enabled to say.

Q You spoke of Posey. Have you ever testified before about Posey's land?

A - I was called as a witness in the Keyes Case.

Q Did you testify about Posey's land and his land then?

A - I testified about a certain Crop then

Q Was it the same Crop that you testified of to day?

A - Yes, the same crop.

Q The same crop exactly?

A - Yes.

Q What year's Crop was that?

A - It was the crop sown in 1876 and harvested in 1877.

Q Harvested in 1877?

A - Yes.

Q How many acres did you say or do you now say that he cultivated then?

A. I have not stated how many acres he cultivated.

Q. Or that you harvested? If you have not stated will you please to state?

Mr. Hart. We object as not in cross examination. He did not state the number.

Mr. Cathlin That is the very reason why we want it.

The Court. Certainly it would make a good deal of difference whether it was an half acre or a large tract.

A. I had a contract to harvest a considerable body of land, land that had been sown by the firm of Stone and Posey which had fallen into the hands of the other parties and I harvested it. I think there were eleven hundred acres and over.

Mr. Hart. Not for Posey?

A. No. It was land sown by him which had fallen into the hands of other parties, as I stated in my direct examination those lands were, one piece 80 acres, one piece somewhere in the neighborhood of 70 acres. I am not positive. I would not be positive about that.

Mr. Belcher Did you in the Keyes suit

as to this very land of which you have testified to day, testify, and on your direct examination, that the crop of that year was $22\frac{1}{5}$ bushels upon the land covered, per acre?

A. I do not recollect that I did.

Q. You say you do not recollect about it?

A. I do not.

Q. Well is it a fact that you harvested for him that year 435 acres which averaged $22\frac{1}{5}$ bushels to the acre?

A. I do not recollect that I have ever harvested any particular amount. Or that amount that I knew what it was. There were three pieces of land.

Q. Do you know whether you knew at that time what it was?

A. I had every means to have known at that time.

Q. Did you know?

A. I am not enabled to say for I have quite forgotten.

Q. Then when you come here to day to testify to the crop raised on that land are you simply talking loosely about what you do not know?

A. I am not.

Q. Were you likely to know better in

1878 than you know now?

A-I will state simply how I arrived at it.

Q Answer the question and then you can explain?

< Reporter read >

A- I think perhaps I would. But I have not sworn to a positive amount on that. It varied from 20 to 26 $\frac{1}{4}$ bushels. It might have gone a little above 20. But I am quite sure it was not above 26. That was the largest amount.

Q Did you ever know a crop raised on that land prior to that time?

A That identical land that I referred to in my testimony?

Q Yes,

A No I did not.

Q Did you in that year 1877 harvest over 400 acres in one piece for Posey?

A I am not enabled to say.

Q You cannot tell whether you did or not?

A No. I harvested in the aggregate something like 1100 acres.

Q For him?

A For numbers-

Q (Interrupting) I am asking about Posey?

A. I harvested no grain whatever for him personally. So I stated.

Q. Now you speak of Keppell. Have you harvested any for him?

A. I have been in his field but never harvested any.

Q. I ask you if you have harvested for him?

A. No. I have not.

Q. Do you know whether or not he has obtained from the Spring Valley Company permission to take water from their canal and flow it over his land?

A. I would state a conversation I had with Keppel.

Q. You need not state the conversation. I ask you if you know?

A. I do not know.

Q. Do you know that he has in fact taken it out from the canal?

A. I know that he assumes the right to take it out.

Q. Do you answer my question or do you answer something else?

A. I am answering your question.

< Reporter Read >

A. He has taken it out - Yes.

Q. Did you intend to answer my question

before?

A. I did

Mr. Hart. I object to that question as being entirely improper, whether he intended to do it or not. He has answered it.

Mr. Belcher I think I have a right to ask whether he intended to or not.

Mr. Hart. The Court can determine that.

Mr. Belcher. Yes. ¹ Is he taking it out now. ²

Mr. Hart. That is entirely irrelevant and not in cross-examination.

The Court - go on. If you know.

A. I would not be enabled to state I think.

Mr. Belcher. Very well. If you do not know you can say so.

A. I passed over the ground only a few days ago and I saw a little water running in his excavation that he had to carry the water out. Whether he has got a dam in it at this time I am not enabled to say.

Q. When you speak of Green and Green's land what particular section of land do you refer to?

A- I referred to the east half of 4 and the East half of 9; a strip three quarters of a mile wide and two miles long in 4 and 9. I do not know as I can describe it readily.

Q- The East half of 4 and the East half of 9 would be two miles long?

A- That is correct. And then a quarter of a mile still further to the west, along both of those. That is his land.

Q- Do you know whether or not that land was flooded in every year of high-water from the Sacramento and Butte Creek?

A- I do not.

Q- Do you know that it was not?

A- I do not.

Q- Do you not know as a matter of fact that every year with the exception of a very dry year, since Isreen became an owner of that land, that it has been flooded and flooded for such time as to kill out any crop which could be seen there upon it?

A- No I do not.

Q- Do you know anything about it?

A- I do.

Q. What do you know about it being flooded?

A. I know that it was flooded formerly to a considerable extent at various times.

Q. When did he purchase it?

A. I am not enabled to say just at what time.

Q. When did you first know that he was the owner or ^a part owner of it?

A. Within the last two years I have had conversations with him in relation to the matter.

Q. I do not want conversations, I want to know when you know that he was there upon that land or cultivating it?

A. That is the only way.

Q. Do you know that he ever cultivated it at all?

A. Yes I do.

Q. When?

A. He has cultivated it during the last year.

Q. When besides?

A. Two years before he was interested in a crop there.

Q. Two years before?

A. Yes.

Q. That was in 1881 and in 1879?

A. Yes.

Q. Is that all?

A. I was acquainted with the land before.

Q. I ask you if you know about his cultivating it or being interested in the cultivation of it at any other time?

A. The land has always been spoken of—

Q. (Dilempting) No matter how it is spoken of. I am asking you what you know yourself?

A. I can not say that I know myself.

Q. Now in 1879 do you know whether or not it was overflowed for more than three weeks—in the winter of 1878-9—the whole of it with the exception perhaps of a few little knolls to the west?

A. I know we had a very severe flood there.

Q. That is not the question I asked you. I asked you if you know about that land, whether it was all overflowed and overflowed for more than three weeks continuously with the exception of perhaps a few little knolls on the western portion?

A. If you will allow me I will just make a statement.

Q. I want you to answer my question.

A. It was overflowed.

2. And for more than three weeks?

A. I will not say that it was for I am not enabled to say the exact time.

Mr. Cadwalader - Now make your statement.

A. We had a flood that came down there and it spread over all the country.

The country was entirely covered up I think with the bare exception of perhaps three rods of land that was upon this land - square

Mr. Belcher - And that was a little strip on the west side of it?

A. No. It was a little strip right under where the house now stands. That was all covered up where I refer to.

2. All on the West?

A. All.

2. Now was there not flood in that year sufficient to kill and did it not kill all the crop that was sown upon Green's land?

A. I am not enabled to answer that.

2. Did you see it after the flood subsided?

A. I did.

Q. Do you not know that when the flood subsided there was no crop left, no grain left?

A. It was not certain at that time that there was no grain. But subsequently it turned out that there was no grain.

Q. That was in 1879?

A. Yes.

Q. Now in the winter of 1880-81 was that land all covered with water to a considerable depth for more than a month?

Mr. Hart - Warren Green's land.

Mr. Belcher - Yes, Warren Green's.

The Witness - We had our flood in winter of 1880-81.

Mr. Belcher - (Interrupting) Ask you if you do not know that all that land was covered for more than a month during the winter of 1880-81, overflowed, and to a considerable depth?

A. I am not enabled to say that it was more than a month for I do not think it was.

Q. How long was it?

A. I am not enabled to say in exact days. I would not attempt to say.

Q- Would you put it at less than a month?

A- I certainly would.

Q- How much less?

A- I would not put it beyond three weeks.

Q- Not beyond three weeks?

A- No.

Q- Do you not know that two weeks would kill a crop entirely?

A- I do not.

Q- Do you know that it would not?

A- I do.

Q- That it would not kill it?

A- I do.

Q- With the water two feet deep over it?

A- Yes.

Q- For two weeks. What effect would it have on it?

A- It would cut the yield down largely but it would not entirely destroy it.

Q- And that where the water was so deep as to cover it a foot deep?

A- If the water was running water, as it was there.

Q- Do you know what the character of

Keppells land was and of Green's land also, say 10 years ago?

A. Adobe land.

Q. Adobe land?

A. Yes. With the exception of little knolls here and there scattered around

Q. Was it true that whenever the water came over that land there were little hollows all around that left lakes when the water subsided?

A. Yes, in many places.

Q. Was it not true that at least one third of all that land when that water subsided would still be covered with little lakes?

A. I am not enabled to answer that positive.

Q. Not positively?

A. No.

Q. Because you have not seen it?

A. I have seen it; frequently too.

Q. Then I will ask you for your best judgement about that; if it would not be fully one-third of all the land that would still be covered with water that would remain there until it evaporated?

A. I would state that I do not believe

it would equal one fourth.

Q. You do not think it would equal one-fourth?

A. No.

Q. Now you have talked about Dry Creek. Did you know Dry Creek there, say from Railroad bridge down, as early as 1870?

A. Yes.

Q. Do you know Cottonwood?

A. Yes.

Q. When you got below, say opposite the town of Biggs and from there down so far as Dry Creek had any course at all, what was it? A straight or a very crooked stream?

A. It was a crooked stream.

Q. Winding?

A. Yes. Doubled its length in the distance moving south, or more.

Q. Was it not more than trebled?

A. Perhaps it was. It is an indefinite matter in my mind.

Q. Had it any well defined banks after it got below Biggs?

A. Yes.

Q. Were those banks more than two feet deep?

A. In many places they were three.
 Q. I ask you if that was not the average: less than two feet in depth?

A. No. They were about that.

Q. About two feet in depth?

A. According to my judgment.

Q. And the width about how much?

A. They would vary all the way from 20 to 60 or 80 feet.

Q. The bottom filled with sand?

A. No.

Q. You say no?

A. I say no.

Q. You say there was any sand in the water?

A. There was occasionally a very little sand, just a hat full.

Q. In some places?

A. Yes. That is years ago when I first knew it.

Q. I am talking about the time you first knew it?

A. Certainly. That is correct.

Q. And it never was capable of carrying 1/10 part of the water coming down in time of flood. Did not the water in every time of flood spread out over all those adobe lands there

for two miles on either side of it and fill up all those little lakes and leave them to evaporate?

A - We scarcely ever had a continuous rain but we had floods; I believe in-

2-~~(Interrupting)~~ I ask you if that stream - Dry Creek - would carry in time of flood $\frac{1}{10}$ of the water flowing in it?

A - It could not carry the water. I would not say just what exact proportion, but it would not carry the water.

2- Is it not true that it covered all those adobe lands for a width of from two to four miles, filling up all those lakes on it and rendering it unfit for cultivation for that year?

A - No.

2- You say not?

A - I say no.

2- To what width did it cover it?

A - I am not enabled to say. But variously from a mile and sometimes two miles.

2- In width?

A - Yes.

2- On each side? A half a mile on each

each side a mile on each side?

A - a half a mile I would judge.

Q In 1879 or 1881 - which of those years do you mean to say that there would have been a crop on Green's land but for the fact that sediment was being carried down that canal?

A - I believe I have not stated so.

Q Did you mean to convey that idea?

A - I did not.

Q Very well. You spoke of Rogers. Where is Rogers' place?

A - Rogers' place is a little north of Biggs' and west.

Q North and west of Biggs?

A - yes.

Q Now is it not a fact that Rogers has raised good crops?

A - yes.

Q Why did you say that his success was indifferent then?

A - It was indifferent when the slum has come in there.

Q That is, the very year that it came?

A - yes.

Q But the next year he had a better crop than ever?

A. I do not know that; that it was the next crop.

Q. Do you know whether he did or not?

A. There was a fine crop raised there the later years that he farmed it - the very last year.

Q. Is it not true that the year that it was covered - it was covered after the crop was up was it not, and the grain about two inches high?

A. I am not enabled to say.

Q. Do you know about it at all?

A. Not particularly.

Q. Judging from reason, do you know when it was done?

A. When this crop was raised?

Q. When this crop was injured?

The Court - When it was covered

A. I am not enabled to give you the exact year.

Mr. Belcher I ask you if you do not know as a matter of fact

that the grain was up from an inch to two inches in height when it was covered and that that crop was injured but that the next crop was a better crop than he had ever raised upon the land?

A. I know that he was injured by the snow water coming out there on the crop and that he raised a very poor crop.

Q. Very good. Now I ask you if the next crop, the next year, upon the same land, was not a better crop than had ever been raised upon the land prior to that time?

A. I am not enabled to answer that.

Q. Do you know about any subsequent crop upon that land?

A. The last crop that he raised there I know was a very excellent crop.

Q. Now was not that filling in 1878 at the time when the crop was injured?

A. I am not enabled to say positively.

2- You have spoken of Leusick's
Where is Leusick's land?

A- Leusick's land is situated at
what we formerly called the
Link of old Wray Creek.

2- It is at the Link?

A- Of old Wray Creek.

2- That is it is at what is
called the Link of Wray Creek?

A- The Link of old Wray Creek
because there are two Wray
creeks.

2- Wray Creek has changed
its course there?

A- No Sir. It ran into the
basin in former years where
the grass grew there plentiful
weed clover and we called
that the Link. There was
several channels there passing
through it but below that
at Kippell's Crossing there
was a good channel - old
Wray Creek.

2- There was never but
one Wray Creek there?

A- There is one Wray Creek
still; not destroyed.

Q- Is it not true from where Cottonwood comes in - that is an affluent is it not - that from that point above there are Creek that comes down out of the mountains?

A- I am not acquainted up there at all.

Q- You are not acquainted up there at all?

A- No Sir.

Q- Will take it at the Railroad Is there more than one Hwy Creek there?

A- Only one there.

Q- Had it comes all through there together? Is there any Hwy Creek that comes through in any other direction?

A- There is a Hwy Creek that flows out towards Hamilton to a bend in the Feather River. It takes its source west from the old town of Hamilton on the river along the foot -

hills and it flows through the plains something like a mile and a half to the south and east of this old Dry Creek as we term it.

Q- Is that what you have reference to, when you say there are two Dry Creeks?

A- Yes Sir. That is what I have reference to.

Q- Does that form a junction with Dry Creek?

A- No Sir.

Q- And never did?

A- I will not answer that.

Q- That does not come anywhere in the neighborhood of Leusick's place?

A- No Sir.

Q- When you talk about Leusick's place, why do you talk about two Dry Creeks?

A- I was simply placing them where they were.

Q- Are there any two Dry Creeks at Leusick's place?

A- No Sir only one.

Q- And there never has been

any more than that down there?

A- There was never any, No Sir. I can give you the sections of land if you want them.

Q- I do not care about the sections of land. Now at Kusick's place is it not true that he has raised good crops on the land that is covered with sediment?

A- As far as my knowledge goes and I think it covers the entire piece that the land has been cultivated there never has been a good crop raised on it.

Q- You say not?

A- Yes.

Q- Never since it had been in cultivation?

A- No Sir

Q- Then it was originally poor? A- No Sir

Q- So far as you know?

A- So far as the result of cultivation is concerned.

Q- Have you known of crops that Leusick has raised there. Do you mean to say that you know of your own knowledge that he has never raised a good crop?

A- I know it just as one man knows the crops of his neighbor. I have been upon the ground at the time of harvesting back and forth frequently for I lived right there, within less than one mile of the ground, for years.

Q- How many years?

A- I settled there - I bought a portion of the land in 1870 and resided upon it until sometime in the Fall or early Winter of 1880.

Q- And so far as you know he never had raised a good crop upon it?

A- No Sir. Never.

Q- And now as to Leppel's land. Do you know that he has not raised good crops?

A- I know that he has

raised very good crops - fair crops.

Q - And are land that is covered with sediment?

A - Not the best crops that he had in the same years.

Q - Has not he raised better crops on land that is covered with sediment and to a considerable depth, than that was ever raised on that land before?

A - I am unable to say.

Q - If I understood you correctly you never had been down the Butte Slough?

A - No Sir.

Q - You do not know anything about that?

A - No Sir.

Redirect Examination of Darius Hulbert.

Mr. Hart - Mr. Hulbert you stated to Mr. Belcher that ever since you have known this creek there has been at points small amounts of sand in that creek?

A - Very little sand. Yes.

Q - I want you to state now comparatively, the amount of fill in that Creek before the construction of this Canal and the amount of fill in that creek since the construction of this canal?

Mr. Belcher - I object to that it is not in redirect examination of any amount called out an cross examination.

Mr. Hart - I offer to prove by this witness one redirect examination that there has been more than 100 times as much washing with the last few years since the

construction of the Cherokee Canal into Hwy Creek than there was during thirty years previous.

Mr. Belcher - This witness has only known it for ten years.

Mr. Hart - For all time - the banks show that. The court as I understood it sustains the objection and we except.

2- When did you notice this said that you speak of?

A- As early as 1865.

2- And from that time did you continue to notice it?

A- I have been acquainted with Hwy Creek ever since, with the exception that I have been away occasionally for a year and sometimes two years in that section of the country.

2- State about the quantity of sand coming down, up to 1876?

Q. There was considerable and in 1876 - so much so - considerable on the banks though - so much so that it was used for the purpose of mixing with mortar in Biggs Station for the building of some houses.

Q. So much so?

A. Yes.

Q. When did that amount commence to be so large?

Mr. Belcher objected to the question upon the ground that it is not in ~~cross~~ - redirect-examination.

The court overruled the objection.

ex Counsel for defendant excepts.

A. Well this sand was used in 1878.

Mr. Hart - What I want to know is when there commenced to be any considerable amount of material coming down Wray Creek before 1876?

A. In 1872 we had the first great quantity.

Q- How was it prior to that time?

A- The stream was open and free and clear - it was open to carry water. We regarded it as a good water way.

Q- How much was there in the stream before 1872?

A- You could find occasionally a bushel in a place perhaps.

Q- How many bushels were there, suppose, say, in a mile?

A- Just a half few bushels you could find occasionally in a little low spot - you could find it a hatfull and sometimes a bushel.

Q- You say that in 1872 it came down in large quantities?

A- Yes.

Q- Mud covered the sides of the stream?

A- Yes.

Mr. Belcher - I object to this as not in ~~re~~examination
Mr. Hart - You know where that seed came from in 1872?

Mr. Belcher - I object to this, it is not in re direct examination.

A - It came down in the Winter in the slum water from the Cherokee Mine.

Q - In the slum water from the Cherokee Mine?

A - Yes sir.

Q - How considerable was the fall that Winter?

A - The stream was something like one half destroyed opposite to my place.

Q - How long had the Cherokee Mine been running into that creek at that time?

A - I am unable to say positively. We had no fall before about 1870 at all - none whatever.

Q - Well with reference to that year when did the mining commence in the Cherokee Mine if you know?

Mr. Belcher - Does the Court allow this as in re direct examination. I make the same objection.

ex The court overruled the objection.
counsel for defendant excepts.

Q- Do you know when?

A- The fill commenced?

Q- When did mining commence?

A- I am unable to state positively.

Q- How much of Dry Creek has been filled by this sand from the Leeward Mine?

A- The channel is entirely filled up for the extent of miles with sand and sediment, not all sand.

Q- Within how many years?

A- Since 1870.

Recross Examination of Warrin Heulbert.

Mr. Belcher - Mr. Heulbert do you know about the quantity of sand that has been brought down by cottonwood?

A- I am unable to answer with reference to cottonwood.

Mr. Hart - I did not ask about cottonwood.

Mr. Belcher - No^{not} you know that cottonwood has brought down a very large amount?

A - I do not know it.

Q - You do not know it?

A - No Sir.

Q - Do you know as to the quantity of said brought down by Hwy Creek above where Saw-Mill Ravine enters into it?

A - No Sir I am not acquainted over in that section of the country.

Q - Then all the said -

Mr. Hart { Dutg } I object to this as not in recross-examination.

Mr. Belcher - The Witness says that, that said came from the Mine. I want to show that it does not come from the Mine.

Q - Then as to the amount of said brought down by it or brought down by

Cottonwood you know nothing?

A- No Sir

Q- Do you know where Cottonwood empties into the creek?

A- I knew formerly.

Q- Well have you seen it lately?

A- I have not seen it for years.

Q- So that you can not tell anything about it?

A- At this time.

Q- Do you know where Cottonwood raises?

A- It raises west of Croville in the ridge of hills along the Table Mountains.

Q- And does it not run through soil composed very largely of sand?

A- It runs through a hilly plain open porous country, Yes.

Q- And that country through there - through which it runs has been very largely cultivated has it not?

A- Within some six years there has been some land cultivated.

Q- Has it not been within fifteen years?

A- There has been cultivation for fifteen years there.

Testimony
of E. Comstock.

Sworn.
Called for plaintiff in rebuttal.

Mr. Leadwelder - You reside now in Sacramento?

A- I reside in Sacramento, yes.

Q- How long have you resided here?

A- Since April.

Q- Since April of last year?

A- Yes.

Q- Where did you reside before you came here?

A- I resided in Yolo County eight miles above, on the

Sacramento River.

Q- How long did you reside there?

A- Twenty nine years.

Q- Twenty nine years?

A- Yes.

Q- You were farming, were you?

A- Yes, Sir, farming.

Q- Where did you first become acquainted, if at all, with Cache Creek?

A- In 1852, or rather in 1851 - the Spring of 1851.

Q- Have you known it continuously since that time?

A- Yes, Sir.

Q- Have you been in the habit of seeing it every year?

A- Every year two or three times.

Q- Have you been up and down it?

A- Yes, Sir up and down it.

Q- On both banks?

A- Yes, Sir.

Q- Do you know the extent

of stock raising that has been carried on, on those banks?

A. Yes, Sir.

Q- And for a length of time?

A. Yes, Sir.

Q- Are you acquainted with the farming that has been done on that stream?

A- Yes Sir. All the length of it.

Q- What has been the extent of stock raising in that Valley?

Mr. Battin - What is this in rebuttal of?

Mr. Badwalader - The natural wash.

Mr. Battin - In rebuttal to what testimony that we introduced in regard to the natural wash of Cache Creek?

Mr. Badwalader - It is unnecessary to state. You had some witnesses who testified in regard to the natural wash of Cache Creek.

Mr. Battin - The first testimony introduced on that subject was introduced on the part of the

plaintiff in the testimony of Mr. Hoag, the first witness who was put on the stand.

The Court - But it was an cross-examination I think, Brown. (The Reporter read the question)

A - Very largely. In the earlier days it was devoted to stock raising up to 1862.

Q - Nothing but stock raising?

A - Yes sir.

Q - What do you mean by "very largely" Mr. Lounstack?

A - Well, there were very large herds of cattle - Spanish cattle in early days. There were big ranches of Spanish cattle along Cache Creek.

Q - Well how in regard to sheep?

A - There were not so many sheep until about 1862 since it has been all sheep and is yet, all the mountainous part of the country there.

Q - To what extent has sheep raising been practiced in that Valley?

A - There are very large drives

of sheep kept in Cache Creek country now on the bald hills above where they are farming, and the lower part of the creek has been cultivated for ten years.

2- Can you state what effect the cattle raising and sheep herding has had upon the soil?

A- Well it has had the effect to harden the top of the ground and make it harder.

In early days, in wet times you could not go down without you would mire down, but after a few years the breeding, it became very hard and you would not mire down. The ground became more compact.

2- And the same as to cattle?

A- Yes sir, cattle.

2- To what extent has farming been carried on in the Valley and for what length of time?

A- Well for the last - well down towards the Sink of Cache Creek it has been farmed for the last 25 years.

but the last ten years they have farmed the low hills and all the bald hills have been farmed for the last eight or ten years and so on up to Bear Valley. Bear Valley is one of the branches of Cache Creek; that has been all farmed in the last ten years. There used to be cattle there in early days.

2- What is the condition of the bed of that Creek now as compared with when you first knew it?

A- You can not see any difference. There has been no fill at all. It has just the same pure clear gravelly bottom. The same as it had thirty years ago.

2- How does the character of the water that comes down it at different stages compare with it when you first knew it?

A- About the same, except

in the later years. For the last few years it comes down "raillier" than it did the first 25 years - since we commenced farming those bald hills and have plained them up. They are very steep hills; and they have washed but it does not come into Cache Creek much.

Q- Have you been in the habit of taking stock to the mountains for pasturage - the Sierra Nevada Mountains?

A- Yes I have had stock in the Sierra Nevada Mountains I used to drive cattle there in the early days and butcher them but the last few years I have taken them up above Folsom.

Q- Where did you do your first butchering?

A- I done it on the divide at North Star up near Todd's Valley.

Q- On the Iowa Hill divide?

2- Did you ever drive stock on the South Fork?

A- Yes Sir. I teamed over the mountains to the South Fork and I was all the South Fork two years ago all summer.

2- What do you say as to the character of the soil on those mountains in early times during the wet season?

Mr. Battie - Was you ever there in early hills during the wet season?

A- I wintered all the divide two years - in 1851 I kept a store and butchered all winter at North Star on that divide.

Mr. Cadwalader - That is near Yankee Jim's?

A- Just between Yankee Jim's and Paddy Valley.

2- What was the character of the soil in the Winter Season?

A- Well in the winter

season there the soil down as low as that - the soil is kind of loamy red soil and when you get up higher it is harder - up towards Michigan Bluffs it was covered with chapparel mare.

2- How was it as to being mire?

A- Well it did not mire much right on the hills. It mired mare in the little valleys that it did on the hills.

2- Are you able to state what effect cattle and sheep running over these hills has had upon the soil?

A- Well it has packed it down harder. It is not near as soft as it was in early days.

2- What do you say as to its washing, more or less since the sheep and cattle have run upon it than before?

A- Well that would not have much effect on the washing. They would pack it down and what would ~~dissolve~~ would run off in really water; that is about what would be the wash of the mountains except on the side hills, where it was gravelly.

Q- You know where the Elk Horn Ranch is?

A- Yes sir.

Q- Do you know where the town of Fremont is? A- Yes sir.

Q- How far are they apart?

A- About ten miles.

Q- They are both on the west bank of the Sacramento?

A- Yes sir.

Q- Are you familiar with the country?

A- Yes sir.

Q- Do you know whether there has been any levees there since 1868?

A- Only in spots. There has been a good deal of country abandoned there since 1868.

2. I am speaking about the extent of the levees in that ten miles?

A. The levees have not been up. There were levees pretty much all the way before 1868, but they were washed down some and have not been ever put up only in places - near Freeman and at Hersheys. He has put up some.

2. What do you say about the extent of the levees in that ten miles since 1868?

A. There has not been more than half of it leveed.

2. I will ask you whether you are familiar with Putah Creek?

A. Yes. I have been on Putah Creek more or less at Davisville and above, but not so much as -

2. Int'ly. When did you first become acquainted with that stream?

A. In 1851.

2. Have you been familiar with it since that time?

A. Not much above Davisville.

2. When were you ~~there~~ there last ^{above} Davisville say about Winters?

A. I have not been about Winters

for some time. I used to drive cattle across by Half Hills in the valleys there years ago.

Cross Examination of E. Comstock.

Mr Catlin. You say there is a distance of about ten miles between the Elk Horn ranch and Greenmont where there are only levees in spots?

A. Yes.

Q. On the Sacramento River?

A. Yes.

Q. Was it not all leveed prior to 1868?

A. Pretty much all of it was leveed, some of it has never been up. There have been some places where it has never been put up, but it was washed out a good deal of it, in 1868.

Q. I am speaking of prior to 1868. Was it not a continuous levee all the way on the western side of the river from Sacramento to Greenmont?

A. Not all the way. Some places up there never have been leveed.

2. How extensive were those places?

A. There were only a few places along there — probably a mile or so but what have been leveed there sometime before 1878.

2. What was the largest place prior to 1868 on the west bank of the Sacramento River between Washington and Greentown in which there was no levee?

A. Well, there was at one place — one ranch that never was leveed there about half a mile — that never had any levee on it; and there were a number of other places there that have not been leveed.

2. That is half a mile in one place that don't have a levee? What other places?

A. Well, there were one or two small places along different ranches along up there that never have been leveed.

2. What places?

A. The lower part of what was called the Greenwood ranch. A man by the name of Greenwood owned

a small ranch there just above where the Grey boys live.

Q. Whereabouts?, this side of the Elk Horn ranch or above?

A. Up above. The upper part of Sephardt's was never all leveed.

Q. Was it a continuous levee from Washington to the Elk Horn ranch?

A. Yes it is now except in one or two places. There are only two or three places between there and Elk Horn that are not leveed now.

Q. Are not all the places filled up where the breaks have been? Have they not been repaired except in one place?

A. No sir. There are three places.

Q. Those places that have not been repaired?

A. Yes. There is one hole of 80 rods that has ~~never~~^{not} been repaired.

Q. Why were those places by Elk Horn not repaired - before 1868 or were they not repaired?

A. The men that own them saw fit not to levee them I suppose.

The leveeing was done by individuals and some places up there, the men owning places did not levee them and they never did levee.

Q. After 1868 was ~~there~~ not formed into a swamp land district there?
A. No sir.

Q. Was there never a swamp land district there?

A. It was a swamp land district in 1864 the time that the canal was dug in there, when it was in district 18.

Q. Was there not a leveed district formed there after the passage of the Will Green act?

A. No sir. A

Q. And there never has been any since?

A. No sir there never has been any since.

Q. The leveeing has all been done by individuals?

A. Yes; on their own hook.

Q. Then with the exception of the spots you have mentioned it was all leveed between Elk Horn ranch and Fremont - with the

exception of the places where the proprietors or the occupants you have mentioned, did not build levees?

A. There were small levees put up prior to 1868 in most of those places but there have been sloughs up there all the time - most all the time, and the breakers never stayed up long.

2. How was it after 1868?

A. Since 1868 there have not been kept up much of the levees for seven or eight miles above Elk Horn until we get up to Wilcoxson's.

2. Did you ever own any land on Cache Creek?

A. I never owned any on Cache Creek. I have worked a great deal of land there.

2. Whereabouts on Cache Creek did you work land?

A. Right exactly the creek but just above the woods, near Black's station.

2. Where is that?

A. That is about five or six miles above Cacheville, on the plains there.

2. In the valley?

A. Yes. I used to keep cattle there in 1852 and up to 1861-2. My brother -

2. [Int'g.] you had cattle there up to 1861-2?

A. I had cattle there in 1862 and I kept cattle all the time there, in the summer time.

2. How far is that from Woodland?

A. It is about 15 miles from Woodland.

My cattle ran in the low hills between Domingue's and Gordon's.

2. How far up Cache Creek and through this cañon are you acquainted?

A. I am only acquainted with Cache Creek to where it enters the cañon - not on this side but on the north Branch of Cache Creek. I have been up on that clear up north of the Bartlett Springs. The other ~~one~~ goes up to Clear Lake.

2. What is the name of the Cañon there that goes up in the valley?

A. It is called Cache Creek Cañon. That is all I know about it. There has been a turnpike road open up through there since I have

been there that goes over the hill.

2. But from where Cache Creek comes out of the mountains in the plains what is the name of the cañon above there?

A. Capay Valley.

2. How long does that valley extend up Cache Creek - Capay Valley?

A. That Valley from the mouth of Cache Creek - from Langville, I judge, is about 8 or 10 miles long.

2. Is it not longer than that?

A. It may be longer than that but I should not think it was longer than 8 or 10 miles.

2. Is not there a valley of alluvial land upon both sides of the Creek up Capay Valley for a distance of ten or fifteen miles?

A. Until you get up into the mountains?

2. From the mouth of the cañon at Langville?

A. From there up it is nice farming land for a mile or two wide.

2. There is farming land on each side of the creek?

A. Yes, on each side of the creek. I am not familiar with that valley of late years. I have not been up the valley for several years.

Q. Since when have you been there?

A. About 1870. We went along the main road then. We did not follow the river. We went up the road.

Q. Then you have had no acquaintance with this valley land in Capary Valley since 1870?

A. No sir; not above - not up in there.

Q. You are not acquainted but very little above there?

A. Not but very little - not above Langville.

Q. Langville is a village - a little town at the point where Capary Valley and Cache Creek comes out of the hills in the plains? A. Yes.

Q. And from that point above you are not acquainted?

A. I know that it is a very nice valley and that is all I know. But I do not know very much about it.

Q. You have never made any particular acquaintance with it?

A. No sir. Not above Langville.

2- You never had any close acquaintance with it?

A- No Sir not above Langville.

2- Now about Langville can you not see there where the lands are covered with deposit that have come from Cache Creek?

A- Along about Langville and down there are not much banks to the creek and there are kind of bars in the Creek and it changes from one side to the other on the level land. There are no regular banks that is very high banks until you get down six or eight miles and then there are big banks from there down.

2- Coming up to the foot hills the banks are pretty well defined there?

A- Yes.

2- Where the creek enters into the plains it has no banks?

A- Not much. Low banks.

2- Hardly any banks?

Q- Three or four feet probably.

2- And it does not begin to get any banks until it gets down six or seven miles?

A- Not high banks. Not until you get down further. As you go down further then it begins to cut down into the alluvial soil.

2- And in some places there is a steep bank on both sides?

A- Up above Leachville the banks are 25-feet deep probably in places.

2- Now you say that the Creek has a bank of 25-feet at Leachville?

A- I think the banks are from 20 to 25 feet.

2- Is the Creek filled up any there?

A- I do not think it is.

2- After you get into the hills what became of the banks then?

A- The banks run down lower until it comes down into the

tule.

2- Have you ever seen the Creeks spread out and cover a great deal of land with a deposit of sand?

A- It has covered some land near the mouth.

2- How much land has it covered with the deposit from one to three or four feet deep?

A- There may be a few hundred acres. It has a gravel bottom- Cache Creek has

2- I am not asking about the character of the bottom. I will ask you whether there is not a great deal of land there that has been covered with sands that have come from Cache Creek?

A- It has carried gravel out into the tule where it empties. It empties into the main tule.

2- I asked you if the land there is not covered with sand?

A- There are probably a few

hundred acres that have been covered up.

Q - Are there not several thousand acres.

A - No Sir.

Q - In coming from Woodland to Knights Landing do you not pass over a very wide tract of land there, that has grown up in willows and brush which is covered with sand coming from Cache Creek - sands and other debris and gravel?

A - Yes. But that was there before 1853.

Q - All of it?

A - I have never seen any there since. I have been all over there.

Q - That was all there before 1852?

A - Yes. It was filled up and grown up to briars clear down to the edge of the tule.

Q - Is there not a great deal of it there that shows

to the eye a perfect waste of sand for a considerable distance - more than two miles wide?

A- No Sir; - it is not two miles wide I do not think.

Q- A mile and a half wide?

A- Where the brush is there

Q- I am not speaking of the brush?

A- It has all grown up to brush, that is this sediment on it. It has grown up to brush clear down to the tules. The tules and the briars come together

Q- Is it about two miles wide?

A- I take it to be about a mile. I have been there blackberrying many a time. It has grown up to briars.

Q- How many miles in length on the borders of the creek is it?

A- It is about two or three miles up the creek where the blackberry briars

and willows grow and then there are oak trees.

Q- You say all that was there before 1852 and that none of it has come since?

A- I have not seen ^{it} much since.

Q- What do you suppose is the reason that it came there prior to 1852 and that none of it came since 1862?

A- What has come since 1862 has gone into the tule perhaps.

Q- It has gone into the tule frame there?

A- Yes.

Q- What is the depth of the deposit?

A- You mean that is deposited in the tule?

Q- Yes. The deposit we are speaking of?

A- In the tule?

Q- Yes?

A- They average about probably 2 or three feet deep in the tule.

Q- Back from the tule over these spaces that is 2 or 3

miles in length and a mile wide what is its general depth?

A- I could not say exactly how deep it is.

Q- Is it not as much as ten feet deep in places?

A- No sir I should not think it was that much from the other land. The creek has run out into the tules four or five miles and it has made a road to the main tule.

Q- To what depth?

A- I should judge it was probably 3 or 4 feet deep of soil and gravel. It is a mile or two wide; in two or three places the Creek has run out. It has had two or three channels where it run there. It has not been confined to one channel.

Q- Has it changed its channels since you have known it?

A- It has changed its chan-

nel in the tule. A channel has been made in the tule since then. It has filled up in the tule and then has started out in another way.

2- Have you seen Cache Creek up at the ditch of what is called the Yolo Agricultural Ditch Company's - and the ditch that is used to bring water to Cacheville. Do you know that point - the point where that ditch is taken out?

A- There was a ditch taken out there in early days. There has been no water in it for several years.

2- Do you know the river at that point?

A- I know where the Moore ditch was taken out.

2- The Moore ditch was taken out on the south side of the creek?

A- Yes.

2- The ditch of the Agricultural Ditch Company was taken out on the North side

A- I do not know as I saw any dam on the north side

Q- You have never seen the sink at that point?

A- No Sir, I have seen the Moore ditch.

Q- Have you ever been up on the creek ~~up~~ the Creek itself from Barkerville to Laignville through the valley?

A- Not all the way at a time. I have been to different places along up and I have been up and down the Creek hunting cattle.

Q- Have you ever been up at the place where Billy Moore's ditch take out the water. or where the Agricultural Company's ditch takes out the water?

A- Where the old Jimmy Moore ditch takes out the water I have been there.

Q- Is there not a large body of sand there deposited in the channel?

A- Leach Creek there is wide

and there are bars there and the river runs on one side and there on the other. The banks are half a mile wide there.

2- It spreads out half a mile wide there?

A- Yes.

2- How high are the banks there?

A- There are not much banks there at all. And when the water is low it will run on one side and then it will change around on the other side. It is 80 rods or a half a mile there. There is a sand bar there.

2- Is there not from 50 to one hundred acres of ground covered with this sand bar?

A- I can not say whether there is or not. It has always been there since 1852.

2- Did you see that place in 1852?

A- I was up there yes in 1852.

2- You say the river there in 1852 was in the same

condition that it is in now?
 A- No Sir. It has changed.
 The channel changes from
 one side of the bank to the
 other.

2- Was the River half a mile
 wide there in 1852?

A- I am speaking from what
 I recollect of it in 1852 and
 from what I have seen
 since.

2- How many times have
 you seen it at that point
 between 1852 and the present
 time?

A- You mean the point right
 at the bar or below there.

2- Right where this wide
 bar is - this sand bar that
 is what I am speaking of?

A- I have not seen it for
 the last six or eight years.
 I have not seen it. Four
 years ago though I was
 along down the creek
 where the old El Dorado
 used to stand. I was hunting
 cattle up there.

2- Your recollection of the River in early days is such as presented itself to your observation at times when you were hunting cattle through that valley?

A- Yes. I used to go down through Cache Creek there after cattle they used to run down through there after water and all the cattle in that country used to go down through that way.

2- All the land on both sides was fenced up?

A- Yes. There was not much fencing there then, some of it was fenced but not much.

2- How whereabouts on Putah Creek did you pasture your cattle and sheep?

A- Putah Creek?

2- Cache Creek I mean?

A- My cattle used to run on what is called the low hills there mostly on the east side on those

low hills between Jordan Valley and—

Q [Lutz] How far above Langville are the hills?

A- They are not above Langville, below Langville—below Jordans. The low hills below Jordans—those bald-hills in there. They have all been plowed up since.

Q- Since those bald hills have been plowed up it brings sediment into Cache Creek.

A- It does not run into Cache Creek.

Q- Where does it run to?

A- It runs out to the flat valley up by Blacks and from that to Runrigans. There are furrows from fine creeks come out there.

Q Does not some of it go into Cache Creek?

A- There is very little of it that goes into Cache Creek from that plowed up there.

There are a few small streams there that come into Cache Creek.

Q- In Capay Valley do they not plow the side hills there?

A- I can not say as to that now. They did not when I was there but they have plowed a great deal since.

Q- When were you there last?

A- I have not been up Capay Valley since about 1860 I believe it was.

Q- About 1860?

A- Not 1860 but 1864-'8 somewhere along there.

Q- There was then some plowing going on in that valley was there not?

A- The valley itself was plowed— just a little on the bottom land.

Q- When you were up there did not you see places where Cache Creek had torn away its banks— the alluvial banks on its sides?

A- The main road did not run along near the river. The road runs out from the river

L- You went by the main road?

A- Yes.

L- You did not find even then observe the track?

A- No Sir, not much above Gauguille. I never observed it much above there.

L- In the Summer season those hills are hard and dry are they not?

A- Yes, they are dry. And they generally pack down by the treading in the Winter.

L- I am not asking about their packing down. I am speaking about the Summer season, now when cattle pasture on them do not they cut up this hard ground into dust?

A- Not up there. I have never seen any there that was cut up by cattle. Those

hills are kind of gravel?

Q - Is kind of gravel?

A - Yes, gravel soil where we used to pasture. The low hills and bald hills between Jordan Valley and the Sacramento Valley.

Q - How long have you known of cattle being pastured on the hills up in Capay Valley and above on the headwaters of Cache Creek?

A - I know that at Bear Valley on the North fork - at Bear Valley and above there I saw droves of sheep and saw cattle there in 1854.

Q - When sheep and cattle and other animals are roaming in those mountains and on those hills do they not eat them up, when it is hard and dry, more or less into dust?

A - Well I never saw much of it. I have been where sheep have been a

good deal in the mountains but I never saw much cutting up.

Q - Do they not take them out of there in the "Winter"?

A - Yes. They do in the mountains - they take them out in the "Winter" but they are there early in the Spring.

Q - You say you have observed that the running of animals over land packs the ground down hard? Describe that process and at what times of the year and what the condition of the ground is at the time that the tramping of the animals pack it down hard?

A - Well, when it was wet, in that whole country, when we first came here the whole country - the valley - was ²⁰ in 1850 in time of high water we could not get out of the main road any where without sinking down and you could not

ride a horse back on any of those places in 1850 or '51 or '52 in the Winter.

2- I am speaking now of the summer season after the rains.

A- Well after the rains and after the land is packed the ground becomes hard and it has become packed a great deal harder than it was in early days.

2- Then when the animals are running upon it, when the land is dry they do not pack it down much do they?

A- No sir, not when the land is dry, of course.

2- When it is wet a person you say would sink into it if he went out of the track?

A- It used to be so but it never gets so soft now.

2- Did you say that you had observed when you was at Yankee Jims - you were at Yankee Jims in the butchering business in 1850?

A- Yes in the Winter of 51.

Q- Were you up in the Mountains all of the Winter of 1851.

A- I went up in the Fall of 1851.

Q- And then you observed that the ground was tramped hard by the animals?

A- There were not many animals there in those days. There never have been very many.

Q- You did not observe then that the animals had packed the soil down?

A- No Sir, only in making the roads.

Q- When was it that you observed on the Yankee Line divide that the soil was packed hard by animals?

A- I never saw many animals there to pack it.

Q- Then you do not mean to say that the ground was packed hard there by animals

A- Not by animals only in tanning on the roads.

2- You mean on the roads - where the road-ways were?

A- Where the roadways were it was hard but if you got outside of that you would mire down.

2- The roadbed would be packed hard?

A- Yes.

2- That is what you referred to?

A- Yes. That was effect it had there at that time.

2- That is all the effect packing of the land that you referred to in your direct examination?

A- As far as this land at Yankee Jim's goes, there was nothing else there except the cattle and horses and mules that drove through there.

2- That was all that you referred to on your direct examination when

your spoke of the land packing?

A- Yes up there.

Q- In the Sierra Nevada?

A- Yes. I never saw much stock there. There is not much feed there for stock.

Q- And the other packing that you referred to was what you observed of animals running on those low hills below Laquille in Yolo County?

A- Yes.

Q- When that soil was saturated with winter rains?

A- Yes.

Q- You say that you noticed at times that if you went out of the trail you would sink right down?

A- Yes. I have seen that in early days.

Q- Did the animals sink down too?

A- I have seen cattle sink down on the top of these hills and they died there.

2- Right on top of those bald hills?

A- Yes in 1852.

2- Thin the fact that they were of gravel did not make the surface hard?

A- No Sir. Not at that time, when the animals went up there they packed the gravel down. They run up there in the Winter. They lived there all winter in early days.

2- Those bald hills usually got dry quick after the rains?

A- The water runs off pretty quick.

2- How soon do they get hard, early?

A- Well the water runs off pretty quick.

2- Do they get pretty hard in the early part of June?

A- In the Summer time of course, they get hard.

2- Would that thing continue so until November?

A- Yes. The wild water gets
 ripe there about in May.

2- You said that you
 have observed that Cache
 Creek was really of
 late years?

A- Yes, really. Cache
 Creek is really where the
 water first comes up it
 comes very really for
 a short time but it soon
 gets clear.

2- You made a remark that
 during the last few years- that
 in the last few years Cache
 Creek was really but that you
 had observed that formerly it
 was very clear? A- That

when the water was low after
 the big rises then it may be
 very really but it soon runs
 clear again.

2- Was it very really when the big
 rises came in former years?

A- When the water first came up it would
 be really.

2- It always has been really in floods?

A- In floods? Yes.

Q. Well, when it was always roily in the floods?

A. In the floods - yes.

Q. But was that you referred to in your direct examination when you state that of late this Cache Creek had become roily?

A. Of late years they have been cultivating on all those hills more than they did in early days.

Q. Is it your opinion then from your observation that the ploughing of those bald hills - that is hills not covered with timber - produce more or less debris in streams which drain from those hills?

A. Yes, a good deal more.

Q. If they were not ploughed?

A. Yes. Those streams which drain from those low hills there is a great deal more comes from since the hills were ploughed than there did before.

Mr. Cadwalader. Do I understand that there has been a change in the water of Cache Creek?

Mr. Cutlin. The object to argue examination on that point.

The Court. I think you asked that very question before.

Mr. Cardalader. I ask you another one: whether as a matter of fact you have not observed other parties of the Sierra Nevada than on the Iowa Hill divide?

<Same objection>

2. I want him to correct his testimony in that respect. Do you ~~mean~~ ^{mean} to say that you have not observed any part of the Sierra Nevada as to the hardening or packing of this soil from stock working it or sheep, except the Iowa Hill.

Ex. Same objection. Objection overruled. Defendant excepting. >

A. I have not noticed whatever other parts of the mountains. I have seen flocks of sheep and cattle. On the Iowa Hill divide, as I was around there, there were no cattle running there; only just what were driven there: but I have noticed on the other divide still below, the American

River south and on the head waters of the Stanislaus there are great sheep ranges.

2. About what effect on the soil has it had:

Same Objection. Objection sustained.

Testimony

of
W. B. ~~W~~ Treadwell.

Called for Plaintiff in rebuttal. Sworn

Mr. Hart. What is your occupation?

A. Attorney at law.

2. Have you ever pursued any other occupation since you have been in the State?

A. Surveyor and Civil Engineer.

2. Where do you reside?

A. Woodland, Yolo County.

2. How long have you resided there?

A. Just 11 years.

2. Are you acquainted with Cache and Putah Creeks?

Q. I am acquainted with both of them since that time.

2. What is the character of Cache Creek so far as this water is concerned?

<Objected to as not in rebuttal. Objection overruled. Defendant excepting.>

The Witness. During most of the year the water of Cache Creek is what we call clear water. At periods of high flood the first rush of water brings down quantities of sediment which makes the water exceedingly soily.

2. How is it compared with the Sacramento River above during high floods?

A. I have never seen the water as muddy in Cache Creek as it usually is in the Sacramento River.

2. Have you ever had any occasion to make any surveys for the purpose of determining the amount of debris that has been brought down Cache Creek? ~~is~~

A. Not for that purpose.

2. Have you made surveys determining that.

A. I have made surveys of land there which has been effected by the material brought down. But not for that purpose, not to measure the amount.

2. State whether or not debris has been brought down that stream within the last ten years?

A. There is some brought down every year.

2. How much? What quantity?

A. The quantity has not been great within the last ten years. There has been a considerable quantity of material brought down by the stream and deposited in the tules within the natural banks. But that has not increased materially in the last ten or eleven years.

2. Now is there anything to indicate to an observer how long that material in the tules at the mouth of Cache Creek has been there?

A. Well over nearly all of it there is a heavy thicket growing, which was growing there when I first

same there. It is about in the same condition now that it was when I first saw it.

2. Thicket of what?

A. Trees of different kinds, brush, willow, alder and cottonwood and things of that kind.

2. How much of that old debris is there?

A. The length of that thicket is about three miles I should judge.

2. And its width?

A. Its width is various. I should suppose it would average about a mile. There are points where it is very much narrower than that and in some places it is wider.

2. Can you estimate the amount in acres?

A. It is very difficult to estimate it in acres, because it gradually falls off to the surrounding land. I should think there were probably 500 acres in the thicket proper.

But then it spreads over a very much greater distance, by spreading out.

2. How much of the washings have been increased there in the last ten

years?

A. There are a great many different changes. The Creek cuts out different channels, makes banks here and banks there. But the quantity has not been perceptibly increased since I have known it.

Q. Is there any change in the bed of the stream other than at its mouth?

A. No change in the bed of the stream other than in its banks or where it originally had its banks.

Q. What is the character of the material in the bottom of the stream?

A. Gravelly. From the time it leaves the mouth of the gorge at the head of Capay Valley until it reaches the point in the tule it has a gravelly bed.

Q. How far down in the water can you see?

A. I could not answer that because the character of that water is such, when it flows into it from Clear Lake, that it is not translucent. It is not easy to see into it. An adobe hole of eight or ten feet

you can not see to the bottom of in the summer, though sometimes you can in the spring that the water has subsided. The water from Clear Lake is not a kind of water that is easily seen into. It is greenish.

2. How far is it from the point where Cache Creek leaves the gorge you spoke of, where it enters the lakes?

A. About 35 miles.

2. What is the character of the soil in the mountains ^{over} through which this stream runs.

A. At the headwaters of it, where it flows through the mountains proper it is sand stone shale almost exclusively, with some quartz.

2. How many miles of mountain does it run through?

A. I should think it ran through about 160 miles.

2. Speaking from general information, how does the material through which that stream runs compare with the soil or material through which the American river runs in

the mountains?

A. I do not know that I am sufficiently familiar with the American River to give an answer.

2. What is the character of the rock at the point you speak of?

A. The Rock there is shale and sandstone almost exclusively. Sometimes here and there you find a bed of quartz.

2. Do you know anything about the amount of stock that have been running at the headwaters of that stream?

A. There are vast flocks of sheep and goats, principally on the North Fork. There are large sheep pastures on both sides of the creek along Capay Valley, on the high bald hills there; very extensive sheep ranges.

2. What is the character of the soil over which those sheep range?

A. It varies. It is different on two sides of the creek. The bald hills on the East side of the creek, which constitute the divide between Capay Valley and the American

below are composed of rock. The surface is covered with a poor kind of soil which gullies out very easily, breaks and gullies out.

Q. Have you ever had occasion to observe the effect of sheep grazing on those mountains there?

A. I have seen the land on which they have grazed.

Q. What effect have they had upon it as to increasing or decreasing the natural wash?

A. The land that sheep have grazed on there for a course of two or three years becomes very smooth and hard. The surface becomes very smooth, indeed.

Q. Packed?

A. Packed down very close indeed.

Q. Does that have any effect on vegetation?

A. They generally eat up the vegetation, the small vegetation entirely. Most of the land is eaten bare before the sheep are removed, or they are nearly so.

Q. Have you ^{ever} had occasion to observe the result of ploughing the land there?

Q. Yes. In some places I have seen ploughing on the land. The earth which constitutes the upper portion of the soil of the bald hills if left to itself very easily cracks and forms gullies. If left to itself in a few years it will form great gullies and cracks and wash out. But those hills which cultivated do not form those gullies.

2. What is the reason of that?

A. I attribute it to the fact that the soil takes up the moisture better and more evenly when it is ploughed and cultivated. That is the reason so far as my observation goes.

2. Cultivation does not allow it to run down the hill then?

A. It does not. I never forms gullies on the cultivated hills, or but very rarely.

2. State your observations generally with reference to Putah Creek?

A. Putah Creek is very similar to Cache Creek. It runs through a similar country. It takes

its rise in the mountains, but the mountains in which it rises are more volcanic. There is a good deal more volcanic rock on the sources of Putah Creek than there is on the sources of Cache Creek.

Mr. Cudlin. We object to this, as not in rebuttal.

Ex. Objection overruled. Defendant excepted.

The Witness. It runs through that description of country and runs through a valley called Bearjesee Valley in ~~the~~ Napa County, which is cultivated and has been for a good many years. It then runs through ~~a~~ gorge somewhat similar to that of Cache Creek though not so precipitous. It then enters the left of the Sacramento Valley.

Q. Has there been any considerable amount of cultivation or stock-raising along that stream?

A. Very considerable. Bearjesee Valley has been cultivated a good while. And the banks of the creek between the Sacramento Valley and boundary

of Sacramento and Solano Counties have been cultivated since a very early date.

2. What has been the effect of the natural wash of that stream?

A. In the last 11 years, since I have been here, there has been no effect on the stream itself at all.

2. What kind of water does the stream carry?

A. The water is similar to that of Cache Creek, that is, in ^{appearance} ~~prints~~, so far as the springs are concerned.

2. Clear in summer but muddy in winter?

A. Muddy in winter in floods.

2. When you speak of it being muddy, what do you mean?

A. Well, it has sand, considerable quantities of sand, mixed with it. It has more sand than Cache Creek has and less gravel. It brings down less gravel by far than Cache Creek does, but more sand.

2. Has it made any perceptible difference at ~~times~~ ^{its} delta or mouth?

A. No, not perceptible. But it ^{the same} ~~same~~.

time the terminus of Putah Creek is such that it spreads over a large country. It is not as large a stream as Cache Creek but a greater amount of sediment could be brought down by Putah Creek without showing so easily, as a general thing. It has brought down, I am perfectly satisfied from my observations, and deposited more material in the tules than Cache Creek has.

2. What kind of a stream is Cache Creek? in the winter time with reference to its velocity?

A. It is very rapid indeed. Of course it is different at different points.

2. Did you ever see any material of any considerable size rolling down it?

A. I have seen it in what is called the gorge or cañon of Cache Creek.

2. What have you seen there?

A. I have seen rocks, weighing from 20 to 30 tons, rolled right along.

2. Down the stream?

A. Yes. Just running right along. But it has a fall of about 33 feet to the

mile in the gorge.

Cross Examination.

-of-
W. B. Treadwell.

Mr. Cathin. 2. This that comes down Putah Creek you say has made a wider and less confined deposit?

A. Yes; than Cache Creek.

2. Has not that deposited over the land instead of ulmy through the tules? Has it made any deposit in the big tule basin, or has it covered over the land bordering on the tule basin?

A. More the land bordering the tule basin. The lands, that have been cultivated, have been changed by Putah Creek.

2. What was it that has caused the channel of Putah Creek to change?

A. There was a break occurred in the South Bank of Putah Creek about half its distance from the gorge to the sink. It occurred some years ago. The people living along there attempted to treat it artificially

and they treated it with such success that the channel has turned so that most of the stream goes through the break at high water.

Q. ^{or what} Did it break? A levee or natural bank?

A. A natural bank. There was some leveeing done after the first overflow.

Q. Was the flood of that year on Putah Creek in any manner to be compared with the floods of former years?

A. I could not answer that because the first break occurred before I knew the creek and in fact another break that I did not see.

Q. When did you first know the creek?

A. In the spring or winter of 1870-71.

Q. From such observations as you have made on that creek do you not know as a matter of fact that every wet winter it was subject to a flood?

A. Since I have known it it has been.

Q. And you presumed it was before you knew it?

A. It presents every appearance of that kind.

2. Now was it not the fact, that it overflowed and broke through its natural banks at that point, due to the fact that its mouth had been choked by its own deposits to a considerable extent?

A. I would not answer that question because I do not know enough about it. As I say, at the time the break occurred I did not know it.

2. Just confine your answer to my question without any elaboration?

A. I say, as to the cause of that, I can not speak.

2. My question was this: Whether that break there was not due more to the fact that the mouth of the creek was choked up by its own deposits than any other cause?

A. I can only answer ^{the same} ~~I heard~~ may as I did before; that, as I was not there at the time the break occurred, I did not know it then and could not state.

2. Do you know that the mouth of that was choked up by its own deposits?

A. It has been ever since I have known it.

Q. And it was so when you knew it in 1871?

A. Yes.

Q. Had not it changed its mouth below Danville and changed its whole course?

A. Yes. Oh, that was long before my time. But there is an old bed there distinctly now.

Q. Do you not know the effect from ancient maps of dating since 1849?

A. Yes.

Q. Public maps and United States' surveys that it has changed the whole course of its mouth since 1849?

A. Below Danville?

Q. Yes.

A. Yes, it has undoubtedly.

Q. To what extent? How far has it changed? How many miles?

A. There is about 4 miles of the old bed that was cut off. The new bed has made several changes since that because it spreads out so.

Q. Was not the old mouth pretty

much filled up?

A. It is pretty much filled up now.

Q. What filled that up?

A. I do not know. It is filled up with material similar to this brought down by the creek.

Q. What do you suppose it was?

A. I suppose it was material brought down by the creek.

Q. The sand brought down by the creek and other ~~matter~~^{earth} material?

A. Yes, I should think so. It presents that appearance.

Q. Were you there in 1878?

A. Yes.

Q. I will ask you whether you do not know as a matter of fact that in 1878 there was a very large amount of debris coming down Cache Creek?

A. Not a very large amount.

Q. Well, Putah Creek?

A. Yes. A large amount came down Putah Creek, not down Cache Creek.

Q. Now you speak of Putah Creek near the ~~mountain~~^{canyon}. That is above the old Wolfkill range or it commences right near Wolfkill's old residence?

A. Just near there. It is just below the mouth of the cañon.

Q. You say that at a place where the creek had a fall of 70 feet to the mile you have seen stone rolling right along down ranging from 20 to 30 tons?

A. No. That is not Cache Creek. That is in the gorge of Cache Creek that I have seen that.

Q. I thought you said Putah Creek?

A. No. Cache Creek. That is in the gorge of Cache Creek. Putah Creek has not as much fall through the gorge as Cache Creek has.

Q. Not such a fall as 30 feet to the mile?

A. I do not think it is. I have never measured it; but I have measured the fall of Cache Creek.

Q. Do you say Putah Creek has not a fall of 30 feet to the mile from commencement of the cañon near Wolfkill's and thence up five or six miles?

A. I could only say as before that I do not think it is. I have never measured it and could only compare it with what I have seen in Cache

Creek. There are points undoubtedly where it is very steep.

Q. If you have never measured it - how do you make a comparison?

A. Simply by observing the velocity of the water and the general appearance from the divide.

Q. You can not observe the general appearance and velocity of the stream at the same time?

A. Not at the same time.

Q. Then how would you make a comparison?

A. Engineers are accustomed to make this kind of rough comparisons and can tell pretty nearly by looking.

Q. Can they tell better than anybody else?

A. No. Not better than anybody else who has used his eyes as much. Engineers are accustomed to use their eyes for these things.

Q. Where is this place in the gorge of Cache Creek that you speak of?

A. It is through the entire length of it very nearly.

Q. I ask you where that gorge is?

A. The gorge commences a short

distance below the outlet of Clear Lake.
 The stream there enters and cuts through the gorge about 30 miles in length, and emptying at the head of what is known as Capay Valley which is an alluvial valley bordering the Creek.
 Q. 30 miles in length with 30 feet to the mile?

A. Yes. The fall is 1000 feet from the level of the water at the old mill below Clear Lake to the head of Capay Valley.

Q. How far is the head of Capay Valley from the mouth - Capay Valley at Langville?

A. It is about 15 miles.

Q. The distance from Capay Valley to the old mill is about how much?

A. About 30 miles.

Q. And that would make it 45 miles as the whole length of Cache Creek from the point where it enters the plains at Langville to the old mill which is the outlet of Clear Lake?

A. Yes. Oh, the creek can hardly be said to enter the plains at Langville, but about four miles below there.

Q. Is not the whole length of Cache Creek from Clear Lake to Langville or the point where it enters the plains 45 miles?

A. About that.

Q. And there is 1000 feet fall in 30 miles of it?

A. Yes.

Q. How much water does Cache Creek bring down in the times of a flood, large floods?

A. I do not know by measurement. It brings down an immense volume for a short time.

Q. Compared with the Sacramento River, say at Knight's Landing or here, how is it?

A. I have seen Cache Creek at times when I thought it was bringing very nearly as much water as the Sacramento River.

Mr. Hunt. In high water or low water?

A. In extraordinary floods.

Q. I mean when the Sacramento is at a high water or low water?

A. As the Sacramento carries at ordinary stages? I do not mean at extraordinary floods.

Mrs. Cathin. What do you mean by ordinary stages?

A. As the water stands when it is not over-

-flowing anywhere; the ~~river~~ ^{water} full but not overflowing; the ordinary Sacramento as it is when it is full of water. This is only a guess of my own though. I can not tell because I never measured it. I ~~can~~ ^{may} not bring down as much.

2. Now, then how far did you see these rocks travel?

a. I saw one of those rocks move over $\frac{3}{4}$ of a mile in one winter; a rock of the kind I spoke of; a very large rock which would weigh in the neighborhood of 30 tons.

2. What kind of a rock was it?

a. It was a boulder with a rather rounded surface, water worn, where it had worked down this cañon. It was a sand stone rock.

2. What was its size?

a. I do not know as I could now tell you though I did notice at the time what the size of it was. I estimated the size of it at the time and estimated about what I thought the weight of it was. But I do not know as I can give you the dimensions now.

2. What did you estimate its weight to

to beat the time?

A. Somewhere from 25 to 30 tons.

Q. From 25 to 30 or 20 to 30? I thought you said the latter.

A. No. I said I had seen them from 20 to 30 tons. This one I estimated to from 25 to 30.

Q. Round shaped was it, a smooth rock?

A. It was smoothed off a good deal. It was not entirely round but the corners were rounded.

Q. You say it travelled in one winter - how far?

A. To my knowledge a little over $\frac{3}{4}$ of a mile.

Q. How long was it in going that far?

A. I do not know. I saw it before the floods had moved it - and after the floods had moved it - in one season.

Q. How long was it between the time when you first saw it - at the point of departure and the time when you saw it - at the place of its landing?

A. About five months. But the last time I saw it before the flood was a good while before winter.

Q. Did you recognize it - as the

stone you saw five months before?

A. Yes I knew the stone very well.

Q. And you found it $\frac{3}{4}$ of a mile further down the cañon?

A. Yes.

Q. Now is that the point where you first saw it and where you found it landed?

A. The first point that I found it was about four miles above Shale Cliff. Shale Cliff is the nearest point that I know any name to that I could locate it by.

Q. How far is Shale Cliff below the old mill?

A. Shale Cliff is down near this end of the cañon.

Q. That does not answer the question.

A. Shale Cliff is about 27 miles below the old mill — between 26 and 27 as near as I can tell.

Q. Then the point where you first saw it was about $4\frac{1}{2}$ miles above Shale Cliff?

A. About $4\frac{1}{2}$ miles above Shale Cliff.

Q. And it came down below Shale Cliff?

A. No. It came down about $\frac{3}{4}$ of a mile.

Q. Can you indicate where it stopped?

A. I do not know of any way to indicate it. That is a very wild place there and I do not know how to indicate it.

Q. Is it there now?

A. It was there the last time I saw it. I think it had not moved at all.

Q. When was that?

A. Three years ago.

Q. Had there been any floods in Cache Creek since that time?

A. Yes.

Q. Do you know why it did not keep on its travel during those floods?

A. It struck in a kind of an angle formed by solid rock, that was part of the solid mountain. It got right in the angle formed by those pieces outcropping of solid rock and got in a place where it could hardly move.

Q. Met with an obstruction?

A. Yes. I think it is there yet. I have no doubt it is.

2. What was the character of the channel through which it passed down this $3\frac{1}{6}$ of a mile in that canon?

A. In that space the channel is rather smooth and free from obstruction, rather remarkably so for that creek.

2. How large a channel is it? How wide and how deep?

A. The depth I can not tell you anything about. I never have been there at the time the water was at its highest. The channel would average there about 40 or 50 feet wide.

2. At flood periods how deep would the water be?

A. That I can not tell, because I have not seen it at that point when it is at its great depths.

2. Did you not observe flood marks there by which you can determine?

A. There are flood marks there but they are very indefinite and it is hard to determine, the water stands so long.

2. You did not see the stone in its

movement?

A. No. Not in its movement at all.

Q. But simply found a rock which recognized five months afterwards from your first acquaintance with it $\frac{3}{4}$ of a mile down the stream?

A. Yes. I did not see the rock in motion at all.

Q. What others have you seen in motion?

A. I have seen other large rocks in motion in that stream.

Q. Just give us the size of that rock you first spoke of. If you are so intimately acquainted with it you ought to be able to give us its length and breadth.

A. One way the diameter of that rock would be about 20 feet, as near as my recollection serves me.

It would be about 20 feet long. It is oval shaped. The width I could not tell you. That it would be difficult for me to say. It is a very long rock and is somewhat spindle shaped. The long diameter is about 20 feet.

Q. Give us some idea about the

diameter on the other one?

A. It is very hard to give. It is very irregular in the other direction. It is pretty regular in one direction; very nearly of a uniform section.

But the other one it is exceedingly irregular and it is pretty hard for me to tell at this distance of time just what the size of it was. I can remember distinctly how the rock was marked and how it looked but could not give you the size.

Q. Did you ever measure it.

A. I never did.

Q. By the same observation by which you are enabled to state its is about 20 feet long, can you state how wide it was?

A. No. I remember that I did make an estimate of it at one time. That is, I looked at the rock and noted it in making a kind of a monument in a survey ~~in a~~ I was making. I noted the rock at that time. It was a peculiar looking rock and for that reason I noted it. But I did not think anything about

what the size or weight of it was.

It just occurred to me that it was about that.

Q. Was its breadth half its length?

A. I do not think it was. I do not think the other diameter is half as much.

Q. Can you just sketch its general shape on paper?

A. Yes, I can do that. I will not answer what the proportion is though.

<Sketches> The proportion above the dot like is the proportion that stood above the ground at the time I noticed the rock.

Q. How were the banks of the creek there?

A. At which point?

Q. At the place over which this rock travelled?

A. Very precipitous indeed.

Q. Rocky?

A. Rocky.

Q. It is where the creek has worn down to a solid rocky bed?

A. Yes. It is cut right through rock hills or mountains.

Q. You say that the natural wash had no effect upon the stream itself?

a. No, not upon the stream itself.

Q. You mean that the natural action of the water has had no effect upon the banks of the stream?

a. I mean to say that the waters of the stream and bed of the stream are about the same as when I first knew them, have not changed.

Q. What is it that caused Putah Creek to change its course? Is not that the action of the water?

a. I say since the time that I have known it.

Q. Has not Cache Creek or Putah Creek changed since you knew it?

a. Only changed in respect to the break. There is more water running ^{up} of the upper break than formerly?

Q. Instead of passing down its old channel it made a new channel by going through ~~down~~ ^{on} one side?

a. Yes. Cut right-through the bank.

Q. Is not that one of the results of the natural wash of the creek?

a. I do not know the result of the water running there. The water running over the bank broke away

some portion of the bank. An attempt was made to levee it and to put in an artificial bulkhead to restrain it. But the effect of the work done there was that the cut was enlarged instead of being made smaller.

2. When were those attempts to levee it made? They were made years before, were they not?

A. Made at different times. Some of them were made since I have known it and the most important ones.

2. I ~~had~~^{supposed} entirely ~~left~~^{leave} the bed of the creek at high water and formed a new channel would it not?

A. It has been often said so by people living along there?

2. And they attempted to direct it by erecting a levee?

A. Yes. And by a bulkhead and gates.

2. And the next flood carried that away and it continued to ~~work~~^{break} until it formed a new channel?

A. Yes. It cut out so it has formed quite a new channel there.

2. What is there to obstruct the creek from passing down the old channel as before?

Q. Nothing.

2. Nothing?

A. Nothing whatever.

2. Is not there a big bar in Putah Creek just below where that point is?

A. There was not until after the break occurred. After that break occurred it brought material.

2. Do you say it was not there before of your own knowledge?

A. The bar was not there to any extent when I first saw it and that was only 11 years ago. There was a very slight bar there at that.

2. How was it there two years before this new channel was formed?

A. I can not tell you when this new channel was formed. It has been gradually forming all the time. There some there when I first saw it.

2. Do you not know as a matter of fact that it is only about two years ago that that new channel was formed?

A. That it was formed to the extent that it now is. That was three years, four years ago in the winter of 1877-8.

2. Was not that bar at the mouth of Putah Creek gradually formed for several years prior to that?

A. Yes. It has been forming ever since I knew it right at that point.

2. There has been a bar there forming ever since you knew it?

A. Yes, right at that point.

2. Has not Cache Creek cut away its natural banks in a good many places in Capay Canon?

A. It has done so.

2. In the last 10 years?

A. No very little. There have been extensive slides before that that have left their marks, but since that time very little.

2. Do you not know a tract of land owned by Dan Warrens in Capay Valley of which 15 acres have been washed off in the last 10 years?

A. No. I know the tract but do not think there has been 15 acres of it washed off.

2. How much of it has there been washed off?

A. There is quite a piece broken off one end. The upper part of it in fact broke off one time.

Q. What year was that? Was it since you knew it?

A. Yes. But I can not state now the year exactly. What year it was. It was several years ago.

Q. How much was it broken off?

A. About five or six acres according to my estimate.

Q. Where was that five or six acres carried?

A. Dropped into the creek.

Q. Are not there many other places in that valley in which similar occurrences have taken place?

A. No, very few. I have been up and down that creek almost every year until within the last ^{two} ~~or~~ ^{probably much} three years through its length at all seasons.

Q. And that is the only place you know of?

A. I know of other places where there have been some light slides and breaking away. But

that is the most important place I know of.

Q. Slides carrying how many acres at a time?

A. No acres at a time.

Q. This one carried away six acres?

A. Yes. I should think that the piece that fell in there - I do not say it - all occurred in one year - was about that. There was about five or six acres lost there.

Here the Court took a recess until 2 o'clock P.M.

In the Superior Court of
the State of California in
and for the County of
Sacramento.

The People of the State
of California
vs.
The Gold Run Ditch
and Mining Company

Afternoon Session
Monday Jan. 23/82.

Afternoon Session.

Testimony
of
W. B. Treadwell.
Cross-Examination resumed.

Mr. Catlin - Mr. Treadwell: you say the fall between the point where Clear Creek discharged into Cash Creek and the mouth of ^{the} Canon, of the valley, is about a thousand feet?

A. Yes.

Q. Making an average of something like 30 feet to the mile all through?

A. An average of 33 feet.

Q. What was the grade of Cache Creek at the point - this three quarters of a mile distance where this boulder moved?

A. Well it was above the average grade.

Q. Did you ever take the grade there?

A. No sir, not especially at that point.

Q. Is not a great part of this thousand foot grade in the upper canons of Cache Creek instead of being down in Capay Valley?

A. The portion that I have spoken of is given in Capay Valley. I have given

the grade of the gorge entirely exclusive of any portion of Capay Valley.

Q- I understood you to say that the grade was a thousand feet from Clear Lake from its entrance into Cache Creek down to the mouth of the creek?

A- It is at the Gorge. Not in Capay Valley. The mouth of the Gorge.

Q- There is a thousand feet fall within what distance there?

A- About 30 miles.

Q- Might not the grade at this point have been as much as 50 feet to the mile?

A- No; I think ^{it was not} that much.

Q- Does the grade not vary very much?

A- Yes very much. There are some points where the grade runs almost into falls.

Q- Some places are extremely steep.

A- Yes and others are quite flat.

Q- Was this canon where this boulder traveled in one of those steep places?

A- It was in a place that I estimated as having a grade between 40 and 50 feet to the mile, as compared with the average grade.

Q- How did you make the

estimate? Did you take any level in anyway?

A- No sir, but I took it by comparing it with other points there of which I knew the grade.

Q- Had you taken the grade at any particular point?

A- Yes there were several points that I knew the grade. The whole grade has been taken clear through by another surveyor.

Q- You do not know what the others have done?

A- No sir.

Q- You say that there is no higher grade than 40 feet to the mile at the place where this boulder traveled?

A- No sir. I can not say exactly, but my opinion is it will not exceed 50.

Q- You say it is a sand stone?

A- Yes.

Q- Are not sandstone rocks brittle?

A- Yes.

Q- Would not a sand stone rock 30 feet in length -

A-~~(Interrupting)~~ 20 I said.

Q-20 feet in length and of a spindle shaped flatish be very apt to break in moving - in being tumbled through the canon?

A-It would be very apt to break and that is what called my particular attention to it the peculiarity - the fact that it had ~~not~~ been broken.

Q-Did you find out where it had been dislodged from?

A-Yes I saw the place where it came from.

Q-Do you mean to say that this rock was of that particular character ~~and~~ that it did not break?

A-It did not break. There might have been small pieces broken off of it.

Q-It did not break in two?

A-No sir. The rock was gullied out in one place on top and I expected that it would break at that place.

Q-Are there many rocks in the bed of Cache Creek canon?

A Yes. There are points where there are a great many rocks.

Q- Loose rocks?

A- There are loose rocks and also outcroppings from the solid rocks.

Q- Loose rocks?

A- Yes; there are loose rocks scattered all along.

Q- Do you know where the current does not wash those loose rocks down?

A- Yes. They had moved every season as far as my experience goes.

Q- Do they accumulate at any particular places?

A- There are places where these loose rocks accumulate. They accumulate to a certain height and then they rolled over again and afterwards they will accumulate at another point.

Q- Have they accumulated at any particular point in Capay Valley?

A- Yes at the upper end, at the debouchment of the creek from the gorge and I have noticed the movement

of rock along the Cañon.

Q. You express it as your opinion that the hillsides after being plowed impede the natural wash instead facilitating it?

A. In that particular soil, I have no reference to any other particular soil. I cannot answer that for that soil.

Q. What soil do you refer to?

A. The soil of those hills along there.

Q. In that gravelly loose soil?

A. No sir. I do not call it gravelly.

Q. In the kind of soil described by Mr. Comstock?

A. No sir, The soil described by Mr. Comstock is on the other side of creek and not the kind that I am speaking of. The soil I speak of is of an adobe character but there is some gravelly soil between Jordan Valley and Capay Valley.

Q. You say that the natural wash has made no change in the channel itself. Where has the natural wash manifested itself?

A- at the termination of the creek where it empties into the flat lands, the tules,

Q- In what way?

A- It has run out gravel banks and sand banks and spread them over the adjoining land to some extent.

Q- Has it not spread itself on either side of this bar or sand waste that is covered with brush that you speak of?

A- I was about to say that in Cache creek the tendency has been to run it out about on a line with the stream and not to extend to either side, that is the latter portion of the formation. It has had a tendency towards the north-east.

Q- Were you very much interested in the passage of the Act providing for what was called the Drainage Act?

A- Yes - What Act do you refer to?

Q- The Drainage Act which

proposed to build a Drainage Canal from Kight's Landing and running down?

A- Yes I was interested in the passage of the act.

Q- I will ask you whether this statement made by Isaac W. Smith the Chief Engineer of that District is not true. I will read it to you, "It is the characteristic of all the streams large and small from the Coast Range on the west of the Sacramento valley that owing to their steep slopes and the rapid drainage of the rains fall they bring down to the margins of the Foot Hills large quantities of materials of which they build out their beds and channels into the valley, on tongues of land elevated above the level of the adjacent."

A- You want me to answer that question yes or no?

Q- Yes

A- I could not answer it that way. If you allow me to

state with reference to this I can answer it.

Q-Well speaking of its action during the last 28 years?

A-I have not known it that long. I cannot testify only as to the last eleven years during which time I have known it. I have no doubt that historically it is true.

Q-During the last eleven years have these deposits of debris from these steep slopes been carried out and built on tongues of land elevated above the adjacent country?

A-Nothing of that kind has been done in the last eleven years - not in that way. It does not build up tongues of land.

Q-Does it then built up along the sides of these old tongues?

A-It has spread the material out in a fan shape.

Q-The old tongues are built

as far up as they would naturally go?

A- It spreads out like a fan both ways.

Q- Did this Engineer not report that therefore in his opinion the waters of Putah and Cache creeks can not be safely conveyed into the main channel because of the continuous elevation of the bed of the creeks and the danger to the levees of the main canal at their mouths?

A- You asked me if he did not so report?

Q- Yes.

A- I read the report that way.

Q- I will ask you whether it is not true as a matter of fact?

A- No sir I think not. I think as to the elevation of the beds it is not true and is not supported by any evidence whatever. As to its effect on the canal that is another question.

Q- Is it not a natural effect

that the beds of these creeks are being elevated at their points of discharge?

A-Where the creek simply enters upon level lands it has no longer any bed at all and there the material is deposited. But so far as the creeks have beds and banks it does not raise its bed at all.

Q-Then the natural wash of the stream within ten years, since your observation has been to deposit it in a fan like shape on either side of the old tongues of land which formerly were projected toward the lake?

A-Yes that has been my experience.

Q-Does it not continue to do so from year to year?

A-Yes. It is rather noticeably so in the case of Pulah creek and less so in the case of Cache creek.

The Court:- It seems to me

that these same questions have been asked of these witness several times and answered.

Mr. Batlin:- You stated that you had made an estimate of the weight of that stone?

A- Yes I made an estimate at the time.

Q- How many cubic feet did you estimate it to contain?

A- That I do not recollect. I can tell you just how it was.

Q- Can not you give me some idea how many cubic feet a stone of that size would contain?

A- I can not tell you that. My attention was attracted to its weight when I observed that it had been moved. At that time I was familiar with the weight of different kinds of rock and I made an estimate of its weight at the time.

Q- Can you tell me now how many cubic yards it

contained?

A- No sir I do not recollect it now.

Q- You can tell whether it contained 100 or 150 or 500?

A- I could not estimate how many it did contain.

Q- Is it your present judgment that it contained 150 cubic feet?

A- I can not remember anything about it except the weight of it.

Q- You stated that you were a Civil Engineer?

A- Yes.

Q- Have you ever made Hydraulic Engineering a part of your practice?

A- No sir I have not.

Q- What Civil Engineering have you done?

A- I have done Rail Road work principally and some water front work. I would like to say one thing with regard to the measurement of that stone - there was one there that

I did not measure and there was one that I did measure.

Mr Hart:- What stone was it that you did measure?

Mr Lattin:- I object to that question; it is not in direct-examination.

Mr Hart: We want to prove by this witness the fact that a very large stone in Yolo County was moved four miles over gravel plains by another creek near by. It is a fact that did not come to my knowledge until now.

The Court:- I do not think it is proper in rebuttal; he has not said anything on cross-examination that requires any explanation. I do not think that the question as to the transportability of material is open

Testimony of G. F. Allardt.

Cross-Examination resumed.

Mr. Belcher- Mr. Allardt did your estimate of 176 millions include the mines along State Creek at La Porte, St. Louis, and Port Wine?

Ans. Yes.

Mr. Cadwalader- I desire to ask one question of Mr. Allardt, that is, as to the top gravel and that below with reference to the pictures.

The Court- That question was reserved and it is understood that counsel would look at the record and see what the testimony had been on the subject.

Mr. Hart- Mr. Cadwalader was not present in Court when the Cross-examination commenced and I did not feel at liberty to offer to prove that fact. They can either go on with the cross-examination now and we will ask it hereafter or we will ask it now.

Mr. Belcher- We will go on with the Cross-examination first.

Q What is the length of Canon Creek approximately?

A At Gold Run?

Q No sir, Canon Creek on the Yubas?

A Big Canon Creek?

Q Big Canon Creek.

A From what point sir?

Q From the point where mining begins on it.

A That would be Morristown on this map. Fifteen miles perhaps something like that - fifteen miles sir.

Q Is it not 20 miles following the stream?

A I can not say. In a straight line it is 12 miles and I add 25 per cent to it.

Q How much did you see of that stream?

A I crossed it, that is all.

Q At one point?

A At one point.

Q Where?

A On the road from Downsville to La Porte.

Q On the road?

A Yes.

Q Did you see the Slate ~~same~~ creek

at any points except between St. Louis and the crossing to La Porte and the crossing to Port Wine?

A. I said that I saw it above the crossing of the road, about a mile and from there pretty much all the way to La Porte. I crossed it at the upper end - at whisky Digging.

Q. You mean pretty much of the way for one mile. Is that what you mean to say?

A. I rode in it a mile, from the St. Louis crossing I rode a mile above in the bed of the stream and then I saw a great deal of it between there and La Porte. How much I do not remember.

Q. Can you see it at all from the road?

A. I think so.

Q. Can you see it from Gibsonville at all?

A. No sir. Gibsonville is above St. Louis.

Q. Well from Gibsonville until you get down close to the crossing can you see it at all?

A. I do not remember. I do not say that I saw it.

Q. Or can you see it from the bridge crossing on the road until you get to La Porte?

A. I have no distinct recollection on that point. I made no examination of that matter.

Q. Did you make any examination of Cañon Creek at all?

A. No more than by crossing it. By the way I crossed it twice. I crossed it once much lower down. I do not remember now no that was another creek. That was Rock Creek.

Q. You crossed this but at one point?

A. That is all.

Q. Does Cañon Creek receive the material from Eureka - mines at Eureka?

A. I will have to refer to the map. I think so. Yes, some of the tailings from Eureka were in that direction, and others went South.

Q. Is it not true that at the points where you saw Cañon Creek it was filled up with sediment?

A. I think not. No, I think it was tolerably clear there.

Q. At the point where you saw it?

A. Yes.

Q. That is the only point where you did see it at all?

A. Yes.

Q. Do you know Oregon Creek?

A. I do.

Q. Are you acquainted with that along its length?

A. Yes.

Q. How much have you seen of that?

A. Do you speak of Oregon Creek that empties into the Middle Fork?

A. Yes.

A. It empties into the Middle Fork. I only saw it at its mouth and near Camptownville, the head waters of it.

Q. Can you see it at all from Camptownville?

A. You can see it in that neighborhood.

Q. Was it on the road from the Oregon house to Camptownville that you saw it?

A. No. When I was at Camptownville I travelled around the country considerably and saw it.

Q. What is the length of Oregon Creek?

A. The entire length?

Q. The length from the head of mining

A. If Camptownville is ^{considered} ~~considered~~ the head of mining -

Q. (Interrupting) Is Campton the head of mining?

A. I saw no hydraulic mines ^{above} there.

Q. Is it the head of mining?

A. Not of mining - not in that general sense.

Q. Where then does mining begin?

A. The head of mining is at Forest City.

Q. Did you include Forest city in your computation?

A. No sir.

Q. You did not?

A. No sir. I saw no hydraulic mines there.

Q. What was the first that you included?

A. Camptownville.

Q. What do you say as to the length?

A. Eight miles perhaps to Camptonville.

Q. And then to Forest city?

A. And from Camptownville to Forest City - 15 miles perhaps. These of course are approximates.

Q. Is that filled with detritus?

A. I can not tell you. I did not see it.

Q. You did not see it at all?

A. Only at the headwaters near Cromptonville, I saw a branch of it probably a Fork.

Q. You say you saw a Branch there?

A. A Fork probably.

Q. Was it Willow Creek?

A. No sir, Willow Creek runs in another direction.

Q. You do not know whether it is filled with sediment or not?

A. Not from observation.

Q. Do you know Kanaka Creek?

A. Yes.

Q. What is the length of that?

A. From Alleghany down from Chipp's Flat, that is the highest point of mining - there is very little on that Creek. It is perhaps eight miles.

Q. Eight miles?

A. Yes.

Q. Did you examine that so as to know whether its bed was filled to a very considerable depth or not?

A. I saw its mouth and crossed it on my road to Alleghany City. At those two points I have seen it.

Q. In going to Cromptonville did you go by

the way of the Oregon house by the stage road.

A. I do not know where the Oregon house is.

2. Did you go from Marysville by the stage road?

A. No sir, I think I came to Camptownville down the river ridge.

2. From Camptownville, where did you go?

A. I will have to refer to my notes, I can not remember. I think I went to Columbia Hill.

2. Did you follow the road into the valley or did you go back by the way of Darnierville?

A. I could not say.

2. Do all those mines at Camptownville, Galena Hill, Railroad and Youngs' Hill - do those all make their dumps in the Creek and in its tributaries.

A. Oregon Creek?

2. Yes.

A. No sir. I think the principal dumping place is Willow Creek.

2. Is not Willow Creek a tributary of it?

A. No sir.

Q. What is it a tributary of?

A. Of the North Fork.

Q. Of the North Fork?

A. Yes.

Q. Did you say Willow Creek?

A. Yes.

Q. Where?

A. In the neighborhood of these mines that I have just mentioned.

Q. Did you see it in its course below?

A. No, sir, I did not examine it.

Q. So as to the amount of material in its bed you know nothing?

A. I examined no creek. I made no surveys for the purpose of ascertaining the amount of debris in any creek, only in the rivers.

Q. You simply measured first the amount of displacement and then you measured for the amount in the river and then you are prepared to say that all the displacement except what you saw in the river had passed below

Smartsville?

A. No sir I did not say that.

Q. What did you mean then by 86 per cent having passed below Smartsville?

A. Did I say that?

Q. Yes. You said that 14 percent was in the river and that 86 per cent had passed below Smartsville?

A. I arrived at that in this manner. I guess it is right. You are asking me to speak of that from memory. I arrived at that in this way—I prefer however to have the report with me. I prefer to have it before me.

Q. Is this the report you refer to?

A. Yes. I see nothing in this report about what has passed Smartsville. I merely see that a certain percentage of the washings are still in the Yuba River and its tributaries. I said nothing in this report that it has passed Smartsville.

Q. I am not asking you what you state in your report but I am asking you what you said in the stand here?

A. If I said so it is erroneous in—

one respect. I say now that 176 millions cubic yards have been taken out of the mines and that about 14 percent of that is ^{still} ~~soil~~ lodged in the Yuba River.

Q And as to the amount that is still lodged in the tributary streams you know nothing about?

A. Only comparatively.

Q You have made no examination by which you can determine that?

A. Yes, I have in part. I know the length and the fall of those creeks and I know that their descent is rapid and judging by analogy I think I can say that the lodgment in the creeks would be less than in the river.

Q Now let me ask you about Willow Creek there as to its being rapid? Do you know anything about that?

A. Yes.

Q Do you know whether it is rapid or is not rapid?

A. I know in its total length it is rapid.

Q Do you not know that at the bottom of the hill just below Cameron

-ville it spreads out in a flat two miles in length and in that flat and below that for three or four miles and it has filled to a depth of 15 or 20 feet?

A. I do not know that.

Q. And perhaps a mile in width?

A. I do not know.

Q. You do not know that that is not true?

A. No sir.

Q. Do you know that any one of those streams ~~have not~~ have not big flats along their course which have been filled and that their beds are filled for at least three quarters of the entire length on an average varying from 20 to seventy five feet?

A. No, I think that is very much exaggerated.

Q. Do you know anything about it?

A. Yes I do know something about it.

Q. What do you know about Slate Creek?

A. I can not speak especially of any one Creek.

Q. I want you to speak especially of one creek.

A. Those flat places are not very ^{large} big.

generally.

Q. Do you know anything about it?

A. I have seen them.

Q. And I have seen them. I want to know what you know about the flat on Willow Creek if you know anything about it.

A. I do not remember.

Q. That is one that I know a good deal about. I have seen it sundry times. And I know something about Slate Creek. Now Shady Creek, do you know about that, whether that has large flats or not?

A. That comes from Columbia hill does it not?

Q. Is that a flat Creek comparatively say for the larger part of its course?

A. No sir. I think only at Columbia still for perhaps a mile it is quite flat. That is my recollection and there is considerable debris there as I said before.

Q. Is it not true that this creek is flat until it comes almost to the river and then it falls precipitously over?

A. I could not say.

Q. Do you know anything about Dry Creek?

A. Yes.

Q. Now Deer Creek, do you know that?

A. I have seen it.

Q. Where have you seen that?

A. I have seen that at its mouth for some distance. And I have seen it from the City of Nevada to the head of Mining.

Q. What is the length of Deer Creek?

A. The entire length?

Q. Yes.

A. It may be 30 miles from the head of mining.

Q. Now do you know whether it is or is not true that there are large flats along the course of that Creek and that that stream has been filled for the greater portion of its course?

A. It has been filled to a very great extent—to a very great extent from the head of mining to Nevada—to Nevada City.

Q. I am talking about the Creek from Nevada until you come down close to Smartsville?

A. I could not tell.

Q. Do you know whether it is or not?

A- No sir.

2- Do you know whether there are any considerable flats on that?

A- I have stated that there are between the head of mining and Nevada.

2- Have you ever passed from Nevada to Smartsville on the road between Smartsville and Nevada and Grass Valley?

A- That crosses Deer Creek above its mouth?

2- Yes.

A- Yes.

2- You have been that way?

A- At Mooney's Flat.

2- You have been from Smartsville to Grass Valley or from Smartsville to San Juan by way of Mooney Flat?

A- Yes.

2- Do you remember where the Indians house is?

A- No sir.

2- Do you know where Penn's Valley is?

A- I remember of such a valley being spoken of.

2- Do you know about the amount of material in there?

A. No.

Q. You know nothing about it? Have you been there by the way of San Juan?

A. From where?

Q. From Smartsville?

A. No sir I think not.

Q. Do you say that you have passed by the Indiana house and did not notice there as to the filling?

A. I say I do not know where the Indiana house is.

Q. Have you noticed Big Ravine?

A. I do not know that place.

Q. Near Timbucktoo?

A. Timbucktoo Ravine?

Q. It is called Big Ravine. It comes down from Smartsville?

A. Yes.

Q. Past Timbucktoo?

A. Yes.

Q. Do you know as to the amount of filling in that Ravine?

A. No. That is below my estimate. It is not included in my estimate.

Q. You do not include Smartsville?

A. This estimate comes to the Smartsville dumps.

Q. In your estimate of the removal of

displacements did you include the Smartsville mines there?

A. Partially - not entirely

Q. Not entirely?

A. No sir.

Q. What did you include there?

A. The estimate extends to the geo of our survey which is shown on map. It is abreast of Smartsville. I cannot say which part of these mines is included in that estimate.

Q. Let me look at your report, I see ^{that} you have here estimates to Smartsville and Timbucktoo?

A. Yes

Q. And you say for Secord Flat?

A. Yes those are the beds.

Q. Do you mean to say that you left out a part of Smartsville and part of the mining there?

A. No sir I did not say that

Q. And that you left out a part of Timbucktoo?

A. No, sir. I said that the estimate of the detritus or debris in the river did not extend below this point.

Q. I am not talking about the river, I am talking about the mines. Do you

include the displacement at those mines in your estimate of the quantity?

A-Yes, I think it is in there. It is in the report.

Q-Did you include that

A-Yes, it is included in the report.

Q-Did you include also at Second Flat? that is still lower down on this side?

A-yes

Mr. Cadwalader- Did you measure or did you not measure the cuts at Smartsville?

A-I say I did measure them. It is so shown in the report.

Mr. Belcher- Now after measuring the pits did you ~~measure~~ or take any estimate of the amount of material remaining in this ravine?

A-Timberstock Ravine?

Q-The long ravine that you speak of?

A-Timberstock?

Q-Yes.

A-No sir, no ravines are included.

Q-Did you make any estimate as to the width or the length or the depth of the ravine and the filling there?

A - No sir.

2 - Or of the amount still remaining above - did you make any estimate of the amount of material remaining in Squaw Creek ravine on the other side of the ridge?

A - No sir.

2 - Did you go up to Sucker Flat?

A - No sir I did not.

2 - Or to any of those ravines?

A - No sir.

2 - I see you include at Smartsville and Timbucktoo and Secord Flat some 38 millions and yet you say you made no estimate of the quantity remaining in those ravines at all.

A - No sir.

2 - And did you stop your estimate in the river above or below the dumps from those mines?

2 - Which mines sir? The Secord mines?

A - No, sir. I am talking about ~~the~~ the Smartsville mines and the Timbucktoo mines?

A - Some of the dumps were above, I think most of the dumps were above except the dump running through Timbucktoo

ravine - that is below. That was the end of the State Engineer's survey and from there up we continued our survey - it was the starting point. An arbitrary starting point.

Q Did you include in your estimate of the amount of the river anything from Second Flat?

A No, sir. That is below.

Q That is below?

A Yes.

Q That is below and Timbucktoo is below?

A Yes.

Q And the main mines at Smartsville are below.

A Part are below and part are above.

Q Are there any from Smartsville that are above?

A Yes.

Q What are they? A There are two or three dumps I think above this initial point.

Q Are there any besides the Mooney Flat mines?

A Yes. Mooney Flat dumps into Deer Creek. They are not put down on this map. I am confident there are several dumps above this initial point.

Q I would like to know which ones?

A I do not remember.

Q Can you designate somewhere your initial point

is and then perhaps we can get at it.

A. I can only designate it by pointing it out on the map.

Q. Can you designate it by any land marks?

A. No.

Q. How far up is it above or below the mouth of Deer Creek?

A. It was below the mouth of Deer Creek.

Q. How far below?

A. I will have to measure again. About two miles - not quite two miles.

Q. Now in making up your estimate here of 176 millions you include Secord Flat and Timbucktoo and Smartsville?

A. All of the mines on the Yuba of any magnitude.

Q. Why did you include those only

A. I made no surveys myself below that point. This had been previously made by the State Engineers department.

2. Well then did you mean that only 14 per cent remained in the river and that 86 per cent had passed down? Was that what you meant?

7. A. I mean just what ~~we~~ say in the report: that a certain number of million cubic yards was lodged in the forks of the Yuba River above this initial point, but that the total amount of excavation on the whole Yuba belt was 176,000,000 yards.

2. But you stated that 14 per cent of it remained there and that 86 per cent had gone down?

A. No, I did not state that.

2. You have got 38,000,000 yards at this point. Did you mean to convey the impression that all this matter had been dumped in the stream above and all except 14 per cent of it had passed down below?

A. No, I did not wish to convey that impression.

2. You did not mean to convey that impression?

A. No. I did not wish to convey any impression except what the figures would warrant. And it is

not so stated in the report.

2. Would either the figures or facts warrant that?

A. Not that percentage, no, as having passed all the way down.

2. What depth did you give for the amount of deposit at Smartsville?

A. It is on the profile.

2. Do you know what it is?

A. No, I do not remember, except approximately.

2. Can you tell approximately what it is?

A. It is about 60 feet.

2. Did you ask anybody what it was?

A. Yes.

2. Who did you ask?

A. I made some inquiries there and they said it was 130 feet. There was a report there, a prevalent report, that it was 130 feet deep there.

2. Do you know or did you find from inquiry whether there had been some few miles above these falls that were 60 feet or thereabouts in height?

A. No.

2. You never heard of it before?

A. I do not remember it.

Q. They told you it was 130 feet and you took something over half off?

A. I said ~~that~~ ^{there} was a prevailing report among some people there: that it was 130 feet deep.

Q. And so you called it 60?

A. I called it 60 because I compared it with the grade of the river below and studied the matter of the overflow and came to the conclusion that 60 feet was probably about right.

Q. And did nobody tell you there were falls a little way above in the river?

A. I do not remember such a statement. I think, to explain on that point, that if 130 feet was adopted, as the fill the original river bed would have run up stream in going down towards Marysville; which would be an absurdity of course. That was one reason for discarding this report.

Q. You say it run up towards Bear River?

A. No. The Yuba is going towards Marysville. The original bed would have been an ascending grade if I

had adopted the 130 feet fill. Having surveyed the present level of the river, having the grade of the present level of the river, then if we adopted 130 fill at Smartsville, ^{it would} ~~and~~ show that the original bed of the river below Smartsville ran up grade.

2. Now do you mean to state that as a fact?

A. That was one of the reasons of the conclusion I came to.

2. I say do you mean to state that as a fact?

X A. Yes, I do. That ^{is} ~~was~~ my recollection of it.

2. What is the grade, the present grade, of the river from Smartsville to Marysville?

A. I would have to look at the profile to give you that.

2. You do not know that yourself?

A. Not from memory.

2. Well, look and see what it is?

A. (After examining profile.) From Smartsville the grade for each mile is as follows: 22 - 21 - 14 - 21 - 20 - 19 - 14 - 9 - 8 - 8 - 8 - 9 - 7 - 5 - 6 - 6 - 6 - 5 - 5 - 9, to the mouth. Those are the grades

per mile.

2. What is the distance?

A. 20 miles.

2. And what the elevation at Smartsville above Marysville?

A. 200 and odd feet.

2. How many feet?

A. About 200 feet.

2. Now, do you mean from Smartsville it would have been up hill if it had been 130 feet?

A. No, I did not mean it.

2. If it had been 130 feet?

A. No.

Mr. Cadwalader. And he did not say so?

Mr. Belcher. I understood him to pay so exactly.

The Witness. No.

2. You do not say the water would have been up hill instead of down?

A. If 130 feet at Smartsville

the bed of the river must run up grade.

2. Can not the bed of a river run up grade?

A. It can.

2. Is not that one of the possibilities?

Did you ever see the bed of a river

where it did not run up grade in places? A. In ponds.

Q. Did you ever see any such case where it did not where there were ponds?

A. Not where there were ponds.

Q. Is it not a most common thing in streams, running streams in particular, that there will be ponds?

A. Very frequently.

Q. And is it not the case that in every case where there is, there is sufficient grade to make the pond?

A. Yes. There necessarily must be.

Q. Now if there was a fall a little way above there is it not a very natural thing that there should be an excavation there and a pond?

A. I would not say about that.

Q. It would be a possible thing?

A. Certainly.

Q. And if there is now between the surface of Marysville and the surface of Smartsville a difference of 270 feet it would not have been necessary that it should run up hill if we had had 140 feet, would it? if we had had that

difference?

A. If you apply it all the way to Marysville and make an even grade ~~of~~ to Marysville, it would not.

Q. Very good. Then if there had been there a place of still ~~of~~ water or at another place of still water between the two points we might have taken off 130 feet and have sufficient grade left at least to carry water?

A. If that was the case it might be done of course.

Q. Then it did not follow as a necessary conclusion from a priori reasoning that you could make?

A. I think it did. Supposing - allow me to state - that three, or four miles ^{below} from Smartsville the fill was only 20 feet -

Q. [Int'y.] Have you measured that fill anywhere to know what it was?

A. I measured it no where, of course not. But I reasoned on it - and studied on it.

Q. Then you are proceeding on a simple theory of your own there?

A. Observation; a matter of observation

more than anything else, to ascertain the depth of filling, and some inquiry there. It is more or less an uncertain factor of course.

2. Is it not a good deal more than uncertain: the factor that you introduce there?

A. No. I feel pretty well satisfied that those figures are about correct from the very fact that they corresponded approximately with the figures made out by the State Engineer.

2. Corresponding with what you wanted to get at the time perhaps?

X A. No. I am speaking of the filling on the Yuba. The survey was made ^{jointly} generally but a computation was made separately and independent depths were arrived at, independent of each other. The final result was that I gave it a little less than the State Engineer. I think my result was 21,000,000 cubic yards and Mr. Hall's was 26,000,000 cubic yards in that distance or in that reach of the river in the entire river; which was perhaps sat-

-satisfactory as far as that goes.

2. Satisfactory to yourself?

A. Satisfactory as to its correctness.

I have no desire to increase or decrease the amount in the least.

2. You were in the employment of Mr. Cadwalader when you made that were you?

A. I was under his instruction, I believe Mr. Cadwalader. The City of Mansville I suppose you mean?

A. The City of Mansville.

Mr. Belcher. How long have you been in his employment or in the employ of the City of Mansville or both?

A. I have only been in their employ while I was at work. I am not constantly in their employ but only while I am in the field.

2. When did that begin?

A. I have stated it several times.

I in August I think it was - July or August - 1874, and extended with some intervals or interruptions to October.

2. Did you not begin also in 1877 under the same employment?

A. On Bear River?

2. Bear River or elsewhere?

A. I think I was paid at that time by the association, the Anti-debris Association. I was personally paid by Hayes.

2. Now, I want to ask you the names of a few creeks here and then pass directly to those.

Do you know Squirrel Creek, or Rush Creek, or Shelby Flat Ravine or Sailors Flat Ravine? Do you know anything about those? A. No.

2. Do you know that they are near the mines which you have represented and which you have taken into your computations here, do you not?

A. I do not. If they are on the map, I do not remember them.

2. I think they are on the map; at least they should be. Did you represent any sediment as in the river at Baird report?

A. On the South Yuba?

2. On the South Yuba?

A. I think so.

2. Does your map show it?

A. It does if there is any there or if there was any there (Examines)

No, there is no sediment at the bridge, or but just a little. It just begins at the bridge, then it increases going down.

2. Do you not know that there were then ten or fifteen feet of sediment right at that point, right at the bridge?

A. I do not.

2. Edwards Bridge - what do you find there on your map?

A. Is that on the South ^{York} ~~York~~?

2. On the South ~~York~~ York?

A. There is no town at Edwards Bridge.

2. Have you ever crossed that road from Nevada to North Bloomfield? ever crossed the bridge?

A. I think so.

2. And do you mean to say that there was no sediment there at that bridge?

A. The profile so shows it; and it went on the profile as being correct, that was from our notes. No appreciable deposit, there might have been some.

2. Was it not 15 or 20 feet deep?

A. No.

2. Have you ever crossed from
Moore's to Alleghany?

Ayes.

2. How did you find it there clear?

A. Yes, I think it was clear there.

2. Was it clear?

A. I think so.

2. Do you know so — whether it was clear
there?

A. Yes, I do. It was my opinion that
there was no deposit there.

2. Above Freeman's — Freeman's Bridge
— on the road from San Juan to
Camptonville; did you report it there
as clear?

A. I will have to refer to the map
again. It is a large territory to run-
over. Freeman's Bridge did you say,
on the Middle Yuba?

A. I think it is the Middle Yuba.
It is that branch of the Yuba
that passes up by San Juan.

A. There is a fill shown there.

2. How much?

A. An average depth of five feet put
down.

2. Is it not 40'?

A. No, I think not. It is my judg-

-ment it is five feet.

Q. Now, in speaking of the country there you say there is vegetation, trees and vegetation, on one side. On which side, did you say of that gully?

A. On the left bank generally. Not uniformly but it is frequently the case on the left side there is more vegetation.

Q. Is that the southerly, or northerly side?

A. The south side. The shady side there is some vegetation on; what we call the north slope.

Q. Where is that so?

A. That is so in a great many places.

Q. Name one?

A. I could not designate from memory. It is a very common feature.

Q. Is it so in the neighborhood of Freeman's Crossing?

A. I could not say.

Q. Is it so in the neighborhood of Edwards' Bridge?

A. I could not say.

Q. Is it so in the neighborhood of Jones Crossing?

A. I can not designate any ^{special} ordinary

locality. It was a general feature.
 2. Is it so at Bowman's dam? Is there any appreciable difference at any point, and if there is I would like to have you name it—where it is?

A. I can not name any particular point. I think it is a very general feature.

2. You spoke also of the chapel being on the steepest incline, 40 to 45 and 50 degrees inclination?

A. No. I said it was on the shady sides or shady slopes.

2. You do not mean it was on the steepest slopes?

A. No

2. Is there any place on the Yuba where it is 45 degrees?

A. Those slopes are rare. There are generally 35 and 40. A very steep slope is 45 degrees.

2. Where is it 40?

A. I think all the slopes are shown on the profile referred to. Take any of them at random. There is 30 degrees at the Columbia Hill Dump. At different stations it is

30 degrees, 35 degrees, 40 degrees, 45 degrees, 30 degrees and 35 degrees.

2. Now, was that simply for just the starting ~~point~~ up or did follow up that incline?

A. That was the general slope of the hill for perhaps a few hundred feet up the trough of the river. I think the average was 35 or 40 degrees perhaps generally.

2. Do not that a precipice?

A. 45 degrees is not a precipice.

2. It approximates pretty closely to it, does it not?

A. Trees grow on that.

2. You say you found the pine cones and leaves several inches in thickness. On those side hills?

A. I did not say on those side hills.

2. I ask you if it was?

A. I do not know that I did on the 45 degree slopes.

2. Did you find them of that thickness on any slopes?

A. I never measured them.

2. Did you find them of that thickness anywhere?

A. Leaves?

2. Pine cones and leaves.

A. Oh, I think it was a very common occurrence to find quite a carpet of leaves on these hills. I could not state as to its depth.

2. Will you name more than one place where you found them in that wise?

A. Oh, I could not designate any particular locality.

2. When you went in where the pines were the thickest did you find anything of that kind even on a comparative level place?

A. I think it would not be anything unusual at all.

2. Is it not true that the pine leaves and cones on all those slopes having any considerable amount of slope, say ten or fifteen degrees and from that up, are washed clean off every year?

A. No. Now, you ask me to give an instance. I ^{refer to} assume a slope at the head of Thumbay Creek. That is near Alta on the North Fork of the American River. It was very steep; it was a bare slope. Very

steep and very difficult to climb on account of its being covered with these pine leaves. And it is not an infrequent occurrence at all.

Q. How deep were they there?

A. I do not know how deep they were, probably a few inches.

Q. Was it the product of the then present year?

A. I could not say.

Q. You could not even tell by looking at ~~that~~^{them} whether they were fresh or old.

A. I might now, if I should look at them, know, but I do not remember whether, at that time, they were old or not.

Q. You say those roads do not wash?

A. I did not say that.

Q. What did you say?

A. I said they were generally in pretty good condition and not badly washed.

Q. That is they are put in good condition every spring?

A. They were in pretty good condition when I saw them and travelled on

them.

Q. Have you ever been over them in the spring time before they were repaired?

A. Yes.

Q. Have you ever been over one of them, over one of those in the mountains, where it was not washed out and very largely so?

A. My recollection is that they were very muddy and the mud was very deep. I do not remember any very extensive wash outs anywhere on those toll roads.

Q. Have you been on the Downville grade?

A. Yes.

Q. Or the Forest City grade?

A. Yes.

Q. Did you not find it so there?

A. The Forest City grade I think was full of stones. My recollection is that it was rather loose but I do not think it was washed out. I know ^{we} went down in the stage very rapidly, as fast as the horses could ~~draw~~ trot.

Q. Was that before the repairs of the roads in the spring?

A. That was in about August, mid-
-summer.

Q. Have you been on the road ^{to} from
Bloomfield from Nevada?

A. I have.

Q. Is that cut down?

A. No, I do not think it is cut
down to any extent.

Q. Is it not cut down for five feet
deep for a considerable portion of
the way up that hill?

A. I mean the border of it. I did
not notice it but should think not.

Q. Have you been on the road from
Bloomfield to Moors?

A. Yes.

Q. Was that washed out?

A. I do not remember that it
was washed out so as to be impass-
-able.

Q. It might be five or six feet
deep and still not be impassable.

A. I should think that would
ruin a road; the washing out
of one foot deep.

Q. But if a road was cut down
gradually so that the bank on
either side were four or five

feet higher than the road, it might still be a good road might it not?

A. If the washing was done uniformly it might not injure it.

Q. Have you not seen roads of that character in the mountains and seen them frequently?

X A. No, I have not. I have ~~not~~ seen but very little washing on the roads or indications of wash. I looked into that matter with considerable care and that was the general result of my observation.

Q. Did you also look into the matter of the effect of frost in the same connection?

A. I did not.

Q. You did into that of the snow-slides and had seen very little of that?

A. I have simply stated my experience about snow.

Q. Do you think that your experience was sufficient to be worthy of being a guide or can be worthy of being considered of any particular value?

A. That I would have to leave

X to others to judge. I do not make any pretensions in that ^{direction} connection.

2. Do you not know that frost is the most powerful agent in the destruction or disintegration of rock or soil?

A. You were speaking of snow.

2. I know; but now I am speaking of frost?

A. It is a powerful agent. Whether it is the most powerful I could not say.

2. What is there that is its equal?

A. Running water of course is more destructive than frost.

2. You said you had seen three snowslides. Do you mean that that was the extent of the snowslides there or merely that that was the extent of your observation?

A. I did not speak of any snowslides. Landslides I spoke of.

2. And it was only one or two of those that you had seen?

A. I said I had looked for them and only saw one or two, but there might be more. That was my answer.

2. You looked for them in the Yuba and the American River?

A. I did.

2. You looked for them in the neighborhood of Michigan Bluff?

A. I was never there.

2. Never was at Michigan Bluff?

A. No.

2. Did you look for them above the mouth of Canon Creek on the North Yuba, between there and Redding and above, and not find them?

A. What points?

2. Above the mouth of Canon Creek on the North Fork of the American?

A. I was on the North Fork of the American. When I say I looked for them I mean that wherever I was, I looked at the character of the country and observed closely to see if there were any indications of slides to any extent. That is what I stated.

2. Now, I ask you if you looked for them on the North Fork of the

American above the mouth of Canon Creek.²

Q. I have been up there and do not remember seeing any. I was up there several times.

A. And did not see any?

Q. I did not.

Q. You have ridden along in the cars there?

A. No.

Q. And did not see any?

A. No. I made some surveys there, but I do not remember any.

Q. You have spoken of the summit of the mountain. Is there lava or granite?

A. Granite I think.

Q. On the summit? A. Yes.

Q. Did you say that it was bare there?

A. I designated a number of points that were quite bare.

Q. Did you mean that the whole of it was bare, say for a width of 30 miles, or only bare in spots?

A. I said four miles?

Q. I understood you to say 30 miles?

A. No. you are wrong there but I think my observation extended over 30 miles and there were a great many bare spots, miles in extent of granite. Silver Lake and the Blue Lakes -

Q. Int'g. Did you make any proportion as to the proportion of ~~it~~ it - which was bare?

A. No.

Q. Have you ever been to Bowman's Reservoir?

A. I was up there with the Superintendent of the North Bloomfield Co.

Q. Is it bare there before you get there or above it?

A. I do not think there were many bare spots. That passes over that Henness Pass road I believe. I think that is pretty well wooded. That is only 4000 or 5000 feet elevation. At Bowman's there are more bare spots.

Q. You spoke of the time when those reservoirs were filled. I understood you to say that they were filled late in the season. One of them you spoke of as

being filled in July and others ~~are~~
being filled in May. And as I
understood you, or gathered from
what you said, it was that they
were generally filled between May
and July?

A. That was my opinion.

Q. Now, do you not know as a
matter of fact that they are filled
and must be filled whenever the
rains come to melt the snows,
whether that be in November, or
December, or January, or any
other month in the year? If
rains come which go to the tops
of the mountains in November
will it not commence filling
those reservoirs?

A. If the rains would ^{not} have turned
into snow; if they are not con-
verted into snow which I think
very ^{liable} ~~likely~~ to happen.

Q. Is it not true that in any
year when there is considerable
flood, the snow does melt ^{to} ~~and~~ the
^{tops} ~~especially~~ of the mountains?

A. At what seasons?

Q. Were you here in 1862?

Q. At what season of the year?

2. I do not sure what season.

The Court. Flood season. At the time of the flood.

Mr. Belcher. Yes sir. Whenever the flood comes whether it would be in December, or January or February?

Q. What is the question before me.

The Reporter read the question. →

Q. When the snow melts at the tops of the mountains, there is a flood. I suppose that is the cause of the flood.

2. Do you mean to say there can be any extraordinary flood without its melting to the tops of the mountains?

Q. I see no reason why not.

2. Do you see any reason why?

Q. Yes. There is a large area below these high elevations that is warmer, where the snow would melt much sooner. It might not remain on the mountain tops —

2. Outg. Is it not true that $\frac{1}{2}$ the drainage ^{area} of the Sacramento River very nearly will, in

the winter be covered with snow, and that the drainage area where the precipitation is more than double, three times, what it is in the valley?

A. I cannot answer that question.

Q. Can not you answer it from looking at the map? or have you in your mind's eye the general topography of the country?

A. I have that. But I am not familiar enough to know where the snow-line — that is to say the snow-line in the winter time — begins, where the snow begins to fall. I suppose it might be called Nevada City; that ~~that~~ would be perhaps the place where the snow begins to fall.

Q. Were you here in 1862?

A. I was.

Q. Do you know whether the snow in that winter melted to the tops of the mountains in December and again in January?

A. I heard so. I was not in the mountains.

Q. And this last year 1880-81 did

they not also, at the time of the high water melt to the tops of the mountains?

A. I do not think they melted to the tops of the mountains, because there must snow on the mountains all the summer long, on the tops.

Q. I am talking about a special time in the winter?

A. I could not tell you from my own ~~recollection~~ observation.

Q. Do you know whether or not those reservoirs were all filled in the month of January last year?

A. I know nothing about that.

Q. Well then do you count that your own generalization would be worth as much of the testimony of others who had seen it, as to filling?

Mr Hunt That is for the Court to determine.

Mr Belcher. That is true. That is for the Court to determine whether his testimony is worth anything or not.

Mr Cadwalader. No! Whether your question is worth anything or not.

Mr. Belcher. Now you have made a profile here of the North Fork from Men's tables, between Pickering's Bar and Rice's Bridge. Did Men represent Pickering's Bar as being an uppermost point at which there was any deposit?

A. This table does?

Q. You say his table does?

A. Yes.

Q. Does not his table show ¹²~~1200~~ feet depth at Pickering's Bar?

A. No.

Q. You say not A. I say no.

Q. Or his testimony?

A. That is taken entirely from his tables.

Q. And not from the testimony other than the tables?

A. No.

Q. You laid some stress on the matter of some ascending grades there. Did you mean by that to say that his tables must necessarily be wrong or that it was ridiculous for one to represent an ascending grade in a stream like that?

A. I made no such remark.

Q. You did not mean that?

A. I did not mean anything of the kind either.

Q. Now, these ascending grades that are represented here you have given the ascent for miles, as in on I see - 41 feet. I take it - those figures in red are the rate?

A. The rate of ascent per mile.

Q. That is so many feet in a mile?

A. Yes so many feet in a mile.

Q. So many feet in a mile. For 400 feet you give it?

A. Yes.

Q. How many feet of ascent ^{would} that be for the 400 feet?

A. About 7 feet.

Q. Would that be an extraordinary rise in the river of that kind?

A. Not at all. It would indicate a hole.

Q. Would indicate that there was a hole there?

A. Yes.

Mr Cadwalader. He said might.

The Witness. There would necessarily

-ily be a hole if that bottom is correct. There must have been a ~~red~~ hole, a water-hole.

Mr. Belcher. There is a change of from 50 to 60 feet in depth?

A. I believe so. <Examines.> Yes. ~~Q~~
 2. Q find another here of 1017 feet with $11\frac{1}{2}$ feet ascending grade. That would be a very moderate ascent would it not?

A. That would be between two and three feet ascent in that distance.

2. Q And that would probably, instead of being ascending grade from the one to the other, be a little more at the lower end of it or somewhere along in the course of that 1,017 feet?

A. That is a matter of conjecture.

2. Q A matter purely of conjecture?

A. Yes.

Q. Aren't were approximations of depths there, were they?

Mr. Hart. That is for the Court to remember.

Mr. Belcher. Now, the present surface of the river bed in October 1881 and the grade 40.34 per mile in the middle section of the same

distance, $4\frac{1}{2}$ miles is that the average which you made or the average which he made?

A. That is the average from Uris' tables. Which one do you refer to?

Q. The middle section?

A. From the top?

Q. From the top?

A. From his tables?

Q. Is that his figure?

A. This figure?

Q. 40.34 per mile?

Yes.

Q. Does that mean it is a straight line from the one to the other, taking his own testimony or his own table?

A. From the table it means that because there are ~~any~~^{no} other grades given.

Q. Did he not state that that was the average grade?

A. I do not remember the testimony. I have not the testimony before me. This is merely the figures ^{in the table} upon ~~which~~ it reduced to a profile.

Q. These are the figures which you took from the profile?

x A. No. These original tables I filed in the Court. It is an exact illustration of his table put in the shape of a profile for more convenient reference.

Q. And starting at Pickering's at zero and closing at Rices at zero?

A. No, not a Rices a zero. It is five feet fill there, reduced.

Q. Then you made some estimates there in drawing the line of the bed of the stream. That was simply drawing the line of the bed following the figures which he gave?

A. The original bed?

Q. Yes.

A. Yes. It shows the grade. I assumed in making this profile that there is entirely correct in all his figures, depth, survey and everything, assume no error of any kind; and the result is as shown on the profile.

Q. Have you made some computations of the upper section where you have given the grade as 46.07 per mile? You made no estimate of the rapidity of the current at

20 feet in depth?

A. That 46.07 is not my estimate. It is Menz's.

Q. I understand. That your own was his estimate of the grade for the distance between Rickerings and Warners' Bridge?

A. Yes. As shown on the profile.

Q. Now you computed there the rapidity of the current with the depth of 20 feet. And in the last section from Stevens Bridge to Rices and computed it at a depth of 17 feet, if I remember and with a grade of 24.6 per mile?

A. In the first section you refer to I computed it for two depths - the depths of 13 and 20 feet - with a grade of 46.09 per mile.

Q. And that was the same width of channel on the bottom? 160 feet?

A. Yes.

Q. Same slope of bank, 45 degrees?

A. 45 degrees.

Q. Now, why did you assume 20 feet depth where the grade was 46.07, and only 13 where it was 24.06?

A. I assumed 13 feet - also in the upper problem. I gave two problems.

Q. Why did you not assume it also in the lower?

A. 20 feet?

Q. Yes?

A. I think the testimony of some of the witnesses was that the depth in high water at the lower end was 13 feet. So I adopted that as an illustration. But 20 feet above is my estimate and Huntley and Gunstrey's of the depth at high water.

Q. These tables which you have worked out here or so far worked them out as to the rapidity of the current, etc. - did you work those out?

A. The velocity you mean.

Q. Yes?

A. I did.

Q. What formulas did you use?

A. I used Kutter's formula.

Q. Is that the same formula which you used when you were on the stand before?

A. No.

Q. Is it the same formula or is it an equivalent formula?

Q. I used no formula before. I merely stated before that the velocity of the current was approximately as the square ^{root} of the depth and from that I made a little computation.

Q. Did you not give a formula?

A. I afterwards gave a formula.

Q. That the velocity was equal to a variable coefficient of the square root.

A. Of hydraulic depth multiplied by the fall per mile.

Q. And that that coefficient varied from 1.16 to 1. what?

A. 1.16 to 1.31 I think, with the different authorities that I gave at the time.

Q. 1.16 to 1.31. And that that formula was applicable to all classes of streams from a rivulet to a river like the Amazon?

A. According to those authorities.

Q. Did you mean to state that yourself before, or not?

A. No. I think you made that remark at the time.

Q. Well, did you? A. No.

Q. Now, is the formula which you used in this case - Kutter's formula - the equivalent of the other formula? There you have a variable coefficient, varying .15 - from 1.16 to 1.31. Is that the variable coefficient which you use in Kutter's formula?

A. Kutter's formula gives a less velocity than these other formulas.

Q. I ask you if it is the same coefficient?

A. No. It is not the same coefficient. Kutter's coefficient is a very complicated one.

Q. I ask you if it is the same or its equivalent?

A. No it is not. It is not the same. Kutter's coefficient is smaller than those that I have mentioned.

Q. And many times smaller?

A. Not many times.

Q. Does it not range between a range of 4. instead of .15?

A. How is that?

Q. I say is not the range of Kutter's formula greater than those?

A. Yes, indeed it is.

2. How many times greater?

A. ~~How~~ coefficient is applicable to all sizes of streams and the coefficient would vary very much.

2. Now, will you answer the question as it was asked?

(The Reporter read the question.)

A. I could not answer that question.

That is ~~an~~ indefinite.

2. How great size; that is, the range of his coefficient?

A. The only variable quantity in his coefficient is what is designated by the letter "n", depending upon the roughness of the surface. All the others are fixed quantities. The only variable quantity is that which refers to the roughness of the bottom, as I said before.

2. Have you stated now what the range is?

A. I have not.

2. Can you?

A. I could by looking at the tables. The range is very great. Comparing very small streams, or a large river, the range is very great. But if the problem is definitely stated there

+ is ^{no} a range; it is always the same.

2. Does he state - Kutler himself - in his book that the range is from 5. to 2.56?

A. It might possibly be that.

2. Have you looked to see? have you even seen his book until in the last two or three days?

A. No, I do not remember seeing it until lately.

2. Until this trial commenced?

A. No. Mr. Hall showed it to me and I looked through the tables. Whatever the range of the coefficient is, the conclusion is right that is given there of those data, according to Kutler's formula.

2. That is a computation you made according to the formula?

A. According to Kutler's formula, complying with the conditions that he calls for.

2. What is the inclination here in this computation - the 20 foot computation? What is the grade of this first section where you made the computation at 20 feet depth?

A. 46.9 feet per mile is my recollection.

2. What is that per thousand feet?
That is the way he makes the computation, is it not - per thousand feet?

A. No. He takes the sine of the inclination - the same thing. It is the proportion between the length and $\frac{1}{2}$ full.

2. How many is that then to the thousand feet?

A. That is a small mathematical problem. I can work it out in a moment. (Figures.) 8.73 feet per thousand.

2. Now does not Kutter himself say that his formulas are none of these ^{applications} complicated where that exceeds three feet?

A. I do not remember that circumstance.

2. Will you look at the book at the bottom of the page?

A. It states here that these results are applicable to channels having side slopes of 1.50 to one and having bottom widths of from .2 to 270 metres, to depths of water from .2 to six metres, to incli-

A. nations of from .00002 to .003 or
 of .2 to 3 feet per thousand. It
 says they are ^{applicable} ~~simplified~~; it
 does not say they are applicable
 to anything greater.

2. Is not that a fair and necessary
 inference; that they are not appli-
 cable to anything greater.

A. I should think not. If great
 accuracy were desired it could not
 be applicable. But they do not
 attempt any great accuracy in matters
 of this kind. They are approximations.

2. Does not the coefficient increase
 as the velocity decreases?

A. The coefficient decreases as the
 fall increases.

2. Does not he give different tables
 for the purpose of changing this
 coefficient and adapting to to
 the particular class of streams
 which he mentions? And is it not
 true from those tables and neces-
 sarily to be derived from them,
 that the one set of tables is not
 applicable to the other class, or
 to anything else than that which
 is there given?

A. I can not speak of those tables. I have made no use of his tables, I have worked it out from the original formula.

Q. That is, his formula is carried out in the tables?

A. His formula as carried out in the tables. ~~supposing then the~~

Q. Supposing then the tables are correct, is it not true that the tables deduced from these formulas — the one set — are not applicable to anything except to the proper description to which he applies it?

A. The tables are limited to ~~as~~ ^{certain} ~~the~~ sizes of rivers and certain full. You can go outside of the tables but if you want to go outside of the tables you must compute originally from the formula. The tables are simply to facilitate and save labor.

Q. Is not a coefficient to be determined, or is it not determined rather by him for each class of tables?

A. It is tabulated in his tables — the coefficient is — certainly.

Q. Then for any other class than that to which it is here applied would not it have required a different coefficient? A. No.

Q. You think not?

A. I think the general formula will supply all coefficients.

Q. You thought before that the general formula which you gave would be applicable to all classes of streams, did you not?

A. What?

Q. You thought before that the general formula which you gave would be applicable to all classes of streams?

X A. I said that was ⁱⁿ the authorities.

Q. You did not mean to give that for yourself?

A. I do not pretend to be authority in hydraulics.

Q. And did not mean to give this for yourself but simply that Kutter says so?

A. Kutter has been stated in this trial to be the best authority. And so I took him as my guide in giving these terms.

2. Who said it?

A. Hamilton Smith said so & on the stand.

2. He did not say anything about Kutter.

A. Well, I am very certain that he did. I made a note of it at the time.

2. If Kutter's formula was given then it is something I do not remember about. Is there any difference between the velocity at the bottom and at the top?

A. Of what?

2. Of any stream flowing?

A. Certainly.

2. What would be the difference approximately between the velocity at the bottom and the top if it were 20 feet deep and flowing with this grade which you have given here - 46.07 per mile?

A. The surface velocity and the velocity at mean depth and velocity at the bottom are assumed to be in the given ratios of 3, 4, and 5. - 2.3 at the bottom, 4 in the center, 5 at the top?

A. Yes.

For instance: if it is five (5) miles at the top, it will be four (4) miles at mid depth provided there is considerable ~~full~~^{depth} width (3) miles at the bottom. That is in streams of moderate velocity. I suppose in streams of great velocity the proportion would be nearer. They would be nearer to each other.

2. Then the velocity you gave at 17.82 feet per mile, would it be the velocity at the top, middle or bottom?

A. That I understand to be the mean velocity.

2. Is it the mean velocity?

A. I think so.

2. You made the computation. I want to know what you made it for?

A. I think that formula is intended for mean velocity.

2. Do you know whether it is or not?

A. They always are in other works.

2. No matter what they always are. I want to know what you have given us here?

A. I think it is the mean velocity

In order to estimate the discharge of quantity, it must be mean velocity.

Q. You did not mean then that this was the velocity of the bottom or top but the mean velocity?

A. I think so. The mean velocity of the entire current. The velocity at the top would be still greater and at the bottom a little less.

Q. If there were a fall of 46.07 feet per mile from Pickering's to Warner and only 24.06 from Stevens to Rice, if the water were 20 feet in this upper section, how deep would it be in the lower section?

A. Do you mean for the same quantity of water passing that point?

Q. There is nothing coming in to increase it, is there? or are there streams coming in to increase it below?

A. I did not say there were.

Q. We will suppose you have the same quantity of water, starting at Pickering's Bridge, 20 feet deep with a grade of 46.07 to the mile. You have the same

quantity at Stevens Bridge, starting at 24.06 to the mile. How much ^{deeper} debris would it be in that section than what it was in the upper section?

A. The velocity in the upper section was about 18 miles per hour and in the lower section I think ten miles per hour.

Q. One 18 and the other 10?

A. Yes. Now, of course the amount of water running in the upper section would be in proportion as 18 is to 10 to that running through the lower section and would have to be raised in that proportion. The depth of the water would have to be increased in that proportion. But as you increase the depth in this lower section you increase the velocity and then it requires another reduction. That is a little complicated but can be very easily worked out.

Q. I would like to get it approximately by at least?

A. I would ~~not like~~ ^{like} to give it approximately. It is rather complicated.

Mrs Cadwalader. You can give it this

evening.

A. At any time. I think I understand you Mr. Belcher. You want to know how much water way is required to carry that water at the lower section. Mr. Belcher. I want to know how much ~~debris~~^{deeper} it would be in the lower section than in the first one. How high is Stevens bridge above the bed of the river?

A. 19 feet is my recollection.

2. Would it be among the possibilities that 20 feet of water at Pickering's Bar could pass under Stevens bridge with the width of the stream the same as it is above? or Rice's bridge either?

A. yes, I think so. The velocity does not change immediately. When it gets to Stevens bridge of course it would not keep the same velocity and it would not require any larger section.

2. We will go back a little and see. There is another section then before you get there, of some $4\frac{1}{2}$ miles, where the grade is 40.84 per mile.

yes.

2. How much deeper would the water be in this section than it is in the upper section? If it is 20 feet in the upper section how much would it be in this middle section approximately?

A. Inversely as the square root of the fall of the river.

2. The fall per mile is 40 feet:

A. 40 and 46. Let the square root of 40 and 46, invert them and apply to the depth.

2. The square root of 40 would be "6" and a fraction:

A. Yes and of 46 also "6" and a fraction.

2. Yes. But let us see what the fraction is approximately. I do not care to have you carry it out further than one figure.

A. The square root for 40 is approximately 6.32 and of 46, 6.78.

One is 93 per cent of the other. There would be an increase of about 7 per per cent in height or in the depth of the water.

2. If it were 20 feet, seven per cent added makes what?

A. That would make an addition

of about $1\frac{1}{2}$ feet.

2. That would make it $21\frac{1}{2}$ feet?

A. Yes.

2. Could $21\frac{1}{2}$ feet get under 19 feet?

A. No, but it could get over it.

2. Did it get over it? Could it get over it and leave the bridge?

A. I can only answer that by saying that the bridge tender told me that it had got over the bridge at one time two or three feet. I do not know of my own knowledge.

I think he said three feet went over that bridge - Stevens bridge.

2. Did not the old bridge wash away?

A. The bridge that is there now he told me the water had gone over two or three feet at one season.

2. Who was the man that told you?

A. An old Germanman there, the bridge tender.

2. What was his name?

A. I do not know. A toll gatherer there.

2. The same man that has been here as a witness?

A. I think not, because I have not seen him. I do not think we ever had a Frenchman on the stand. He speaks quite broken English.

Q. Are there any bends in this river?

A. In the American river?

Q. Yes.

A. There are.

Q. Are they frequent?

A. No. I could hardly say they are frequent. There are ^a few long straight reaches; I have seen ~~no~~ straight reaches over a mile in length.

Q. How long a reach is there between Pickering's and Rice's?

A. I prefer to refer to ~~Warren's~~ ^{Allen's} map. No doubt that is correct in regard to the alignment of the river. *(Examines.)* Straight reach?

Q. Yes.

A. The longest? Do you ask for the longest one?

Q. Yes.

A. Absolutely straight? I suppose there is not a foot of the river that is absolutely straight, and here for

instance at Stevens' bridge there is a reach - just above Stevens' bridge - of 6,000 feet - over a mile - practically straight.

Q. That is from the mouth of Secret Run?

A. Up.

Q. And then above that from Pickering's?

A. There is a reach below Warner's bridge of 2,000 feet.

Q. Now, take a curve like that at Ford's Bar. The water strikes against the bank there, does it?

A. Yes.

Q. Would that bend check its course?

A. Undoubtedly.

Q. Very largely?

A. Yes, some extent.

Q. Does that enter at all in the calculation which you have made of velocities?

A. No.

Q. That is left out?

A. This is calculated for comparative straight reaches.

Q. Is it not only comparative straight but absolutely straight?

Is there any coefficient in all that formula for changes or curves

in the course of a stream?

A. No.

2. Is it not true that a very large coefficient should enter into it?

A. Allow me to say Kutter gives this as the formula for ascertaining velocity of the rivers. And I think it is very likely that he takes that into consideration, as ~~the~~ ~~the~~ rivers ~~are~~ straight.

2. Why do you say very likely?

A. Because no rivers are straight and he says this can be applied to rivers or canals even.

2. Have you made any calculation by which you can determine whether it is correct for a stream that is crooked and makes sharp bends?

A. No.

2. Do you not know that there would be a very large difference between a stream that was straight and one having a bend like that at Hards Bar?

A. There would be a difference.

2. And the next time below that is very nearly at a right angle,

it - not? angles.

2. And then again a little below there is still another turn also at a right angle, and then another not at a right angle but at quite an angle; then another at a right angle? There are several at right angles, are there not? And another one below Booth Canon?

A. On this map they are shown. Now you can compute the current at any one point. Suppose you compute it in a straight reach. Then there is a certain amount of water running down the river. That must find its way down. Now if it comes down to this curves, it may be checked a little. It would fill up or dam up and run so much faster afterwards, because that amount of water has to pass through the river.

2. Of course it does.

A. If it did not pass it would be dammed up.

2. It will pass through the river

and if you could find it in one of these reaches of the river having a grade of only ten feet to the mile and you should take and measure there and then go up to another one and find the water 50 feet deep, with a grade of 50 feet to the mile, it would not be safe to say that it was 20 feet deep in the first would it?
 Q. With the same width or equal widths.

2. Equal widths. Other things being equal. We will suppose now it was a straight stream, having no bend in it at all; but in the one case we have a grade of ten feet - that is the lower one - there we take our measure of a grade of ten feet to the mile - and in the upper one we have a grade of 50 feet to the mile. We have found it is 20 feet deep when it has 10 feet grade to the mile. What would be the depth above?

A. That is a matter of computation again.

2. Would it be 20 feet?

A. I can not compute that mentally. If you give me the problem, I will work it out.

2. Can you compute it so far as to determine whether it would or would not be 20 feet? It does not require much computation to answer that.

<The Reporter read the question.>

A. Approximately the velocity being as the square root of the depth or the square root of the fall per mile the section of the river where the grade is 50 feet to the mile would not be more than about half as large as that where the grade is only ten feet to the mile. Say for instance the water is 20 feet deep on the lower reach, the water would need be only 10 feet deep where the grade is 50 feet to the mile.

2. Now, approximately how much water would be discharged per second from this North Fork of the American River when it was running at 17.82 miles per

hour and 20 feet deep; 160 feet wide at the bottom and with a slope of 45 degrees?

Q. (After figuring.) The cross-sectional area of the stream? The average width of the stream would be ¹⁸⁰ ~~160~~ feet, its ^{depth} ~~fall~~ 20. That gives the area of the water section as 3600 feet. A velocity of 17 or 18 miles an hour is about 25 feet per second which would give a discharge of 90,000 cubic feet per second.

2. Which is the largest the North Fork or the Middle Fork?

A. I am not prepared to say. I do not think there is much difference between them.

2. Suppose they are the same how is it then with the South Fork of the American river?

A. I judge the three forks are very nearly alike.

2. Then in floods running that deep, the three forks should make ~~180~~ 180,000 cubic feet per second?

A. 270,000.

2. I would say 270,000. A. Yes.

2. Now is not the computation made by Hall that at the extreme flood of 62 the whole river here at this city carried less than 100,000? A. At Sacramento?

2. Yes.

A. Hall says that and he says it is possible that there might be 400,000 per second.

2. In that river?

A. Yes.

2. Will you find where he says it?

A. Yes, I have it right here. I do not know whether I can turn to it immediately.

2. I have read that through pretty carefully and have not seen it and I would like to see it in there.

A. It will consume some time to look for it; but I ~~am~~ quite sure I have seen it.

2. If it will consume much time, I would like to have you show it to me afterwards?

A. I will.

2. Do you not know that this river - the Sacramento - below the mouth of the American is not capable of

of carrying one half that amount of water and never was?

A. 270,000 ^{cubic} feet per second?

Q. Yes. A. No. Not without overflowing its banks.

Q. It can carry about 100,000?

A. I have not the figures. The profile has been submitted that gives that.

Q. Then is it a reasonable thing to present to us here that the North Fork of the American will carry more than twice and has carried more than twice as much, nearly three times as much, as the capacity of the Sacramento?

A. That in times is unreasonable of course. But I do not think that is the percentage.

Q. How many tributaries are there coming into the American below the mouth of Stony Creek? That is, below the junction of the South Fork with the main river?

A. Below the junction:

Q. Below the junction of the lowest fork. It is first the North Fork, and Middle fork and then

the junction with the South Fork.
That is a little way above Galsum.
Q. There would be no important
tributaries except Alder Creek and
Buffalo Creek. I think those are
the most important.

2. Buffalo Creek and Alder Creek at
such times would carry how many
thousand inches?

A. Oh, I can not say. I have never
examined that subject. A river may
carry for a few moments perhaps,
only for a few seconds, such a
large amount. It does not follow
it will carry it for 24 hours or
even half an hour.

2. That does not answer the question
that I was asking you.

A. It occurred to me as the proper
answer to the question that you
asked a little while ago about
the unreasonableness of such an
estimate. I think it is in that line
not an unreasonable presentation
of the case.

Mr. Cadwalader- Mr. Allardt, have you seen it stated that the discharge of the American river at Folsom was between four hundred and five hundred inches.

Mr. Belcher- I object to that question on the ground that it is immaterial, and not in rebuttal. It is simply hearsay.

< The Court sustained the objection >.

Mr. Cadwalader I will ask you whether you have seen estimates of the discharge in the year 1862 at Folsom?

The Court- That would be the same question.

Mr. Cadwalader- I want to show that the Goddard estimate was five hundred inches.

Mr. Belcher- I object to that testimony. It is not in rebuttal and hearsay.

The Court- The objection is sustained.

Mr. Cadwalader- We propose to show that the Goddard estimate of 1862 was five hundred inches and that there was a large discharge at the mouth of the river.

The Court. In regard to these upper washings I have not examined the evidence myself but I presume that the counsel for the defense have looked it over.

Mr. Belcher. At the Gold Run Mine?

The Court. Yes. The upper washings.

Mr. Hart. We say that no evidence was introduced on our direct case as to those upper washings.

Mr. Belcher. I have a very distinct recollection that testimony was given on that subject by this witness.

Mr. Hart. The only witness that it can be said testified to them was Mr. Huntley but I think there is no such testimony in the record.

Mr. Cadwalader. We have looked it up and it is not there.

Mr. Belcher. We think it is there.

Mr. Cadwalader. Only four of our witnesses have ever been at Gold Run. We want to prove by this witness that these pictures ^{show} ~~was~~ the comparison of the upper workings with the lower and also show the comparative width of the sand strata and the gravel strata and of the blue cement strata, no. One.

the Court: There is no doubt about that being improper. I will not let you go into the lower pit. 13312

Mr Badwalader: We have never been into that pit yet.

The Court: I do not want to go further into the lower strata and I told you that before. The only question is as to the upper strata.

Mr Badwalader: Your Honor may have overlooked one of your remarks on Monday in relation to the Wren map, the Wren cross-section which purports to show the depth of the blue cement strata.

The Court: I have ruled on that before. I will not admit testimony except as to the upper washings. I do not propose to go into anything except the upper strata. And my recollection is that the witness did not go into that. And I asked the Counsel therefore to look it up.

Mr Hart: We desire to offer this testimony to show that no

distinction — no line of distinction exists in the bank as has been testified to by the witnesses for the defense at a certain point. They have testified that there was a dividing line between what they call the heavy material and the light material. And they then have proceeded to make a calculation of the amount of each. Our object is to show that there is no such a distinction of the dividing line between what they call the light material or heavy blue gravel or cement material.

The Court:- So far as the lower pit is concerned I have ruled on that before.

(Mr Belcher read from page 3414 of the Reporter's written transcript of evidence)

The Court:- I have asked parties to look this matter up. You may move the upper washings but you need not go into the Indians pit. I do not want anything about the lower pit at all.

Mr Belcher:- We except.

Mr leadwalader:- Is the witness to be permitted to describe the banks?

Mr Belcher:- I would like to ask what is the matter about which they are allowed here to go into an examination?

The Court:- The banks of the excavation.

Mr Belcher:- And character of material?

The Court:- And the character of the material in the old excavation. They say they have not been into that.

Mr leadwalader:- We ask that the witness be allowed to describe the material composing the surface or rather composing the surface of washings at Gold Run; that is, what overlies the present washings.

The Court:- And entirely above the bench of the present washings.

Mr leadwalader: Entirely above the bench of the present washings.

The Witness:- I am to keep entirely within the top washings?

The Court:- Within the top washings.

Mr. Belcher. If you know.
The Court. The character of the material, that is all you want.

Mr. Leadwalaader. Yes,

Mr. Belcher. This is to be limited to the character of the material washed prior to 1876.

The Court. This is limited to the top washings.

The Witness. This is photograph number

Mr. Belcher. We prefer that he should leave the photographs out. We object to his using the photographs. If he has to go into that let him testify to what he knows himself.

Mr. Hart. The Witness may go on and make his statement and you can cross-examine him.

The Witness. The first view was taken on the west side, west of the deep pit as I will designate this ground, this forbidden ground - I will designate that as the deep pit. It shows soil - of the original surface which is 410 feet above the plane of the bed-rock of the deep pit. It shows red soil on top.

The Court. How deep?

A. It shows six feet of red soil on top, from the top down. First there is red soil six feet, gravel 13 feet, blue gray sand 11 feet, gravel 12 feet sand 16 feet, gravel 21 feet, the balance of the bank is hidden by the talus.

Mr. Cadwalader. That is 400 feet west-

A. ~~(interrupting)~~ It is 410 feet in height higher elevation. That pit is shown in photograph number 4.

The Court. That bank?

A. That bank is shown in photograph No. 4. Photograph number "8" shows the original bank at the point where the Gold Run Mine ladder is located,

Mr. Belcher. I will make another objection that this witness is testifying not from what he knows but from what is shown on the picture.

Mr. Hart. He is testifying from what he has seen there.

The witness. Yes, I saw it and I took my notes at the time I was looking at it.

Mr. Belcher. I prefer that he shall testify from what he knows.

The witness - I have not the photograph before me now. Photograph No. 8, shows the original bank at the point where the Isold Run Mining Company's ladders where the three pipes descend from the natural surface into the old pit - the elevation of the natural surface above the bed rock. These elevations all refer to the bed rock of the old pit. So that once for all when I speak of the elevation it is the elevation above the bed rock of the present deep pit. The elevation is 330 feet. From the natural surface down there is of red soil 8 feet, gravel 4 feet, sand 6 feet, gravel 11 feet, sand 7 feet, gravel 54 feet. Clear ^{or top} of the bank the top stratum is red soil beneath which is gray gravel with small layers of sand more or less discolored with iron oxide from the top strata. This is represented in Photograph No. 8. Photograph number 10 represents the old bank near the Railroad about $2\frac{1}{2}$ miles northerly from the deep

pit. And shows almost all gravel. That is to say the elevation of the top surface is 480 feet. Red soil 4 feet and 70 feet of gravel intermixed with thin layers of sand aggregating about 10 feet. Then I have a few other views of the bank in that distance ~~of~~ for two and a half miles for the purpose of averaging - coming at an average of the gravel in the old mines - of the material in the old mines, showing it in detail. I have them all recapitulated in the table in a more convenient form.

Mr. Hart. State generally then - describe the character of the material in these upper washings.

A. It is quite uniform in appearance - always overlaid with a stratum of red soil and in a great many cases the cobbles and stones in the red soil reached nearly to the surface. Beneath that generally is a layer of gravel, what miners call gravel, containing stones from the size of pebbles up. It is very common to see stones six or eight

7
 inches in diameter pretty ~~finely~~ uniformly distributed and intermixed with the sand. Then come layers of almost pure sand. The gravel banks are very firm indicating that they are cemented. They have stood there for eight or 10 years as is indicated by the trees growing in the talus and there is also an indication of their firm cementation by the sharp angles that they present. In the centre of the pit, in the middle of the pit are these pillars or islands which serve to convey the idea of the character of the material in the body of the pit. Those are almost entirely composed of gravel. For instance the Photograph 10.- In this sketch - we have a pillar 60 feet high composed of gravel from top to bottom with thin layers of sand one or two feet thick intermixed. It contains cobbles six inches in diameter and the talus is covered with stone from three to ten inches in diameter finely distributed. That description will apply generally to those islands

in the pit.

2 What proportion of stone does that bank contain?

A. I have summed up nine views of that bank - not of the islands or pillars but of the bank in the old washings and the average result is that 7 per cent of it is red soil, ~~40~~ per cent sand and 50.

per cent is stone from the size of gravel to the size of a man's head.

This percentage would be probably a little greater still in stones if we take the pillars in the pit as our guide. These banks are composed almost entirely of gravel and this gravel is a fair representation, a fair percentage for the entire pit as far as ~~8 or 9~~ observations can give it to us.

2 Were you present ^{at the time} ~~when~~ these views were taken?

A. I was always - when these photographic views were taken.

2 You saw them taken?

A. Yes I directed them. I directed the photographer where to take them.

2 Were the proprietors of the Gold

43

pebbles

3338

Run mine Around?

A - On the first day we met Mr Price the foreman of the mine, he was with us during that day and in the evening we met Mr Gould at the hotel and invited him to go up with us the next day but he said he did not have time and that Mr. Price would lend us a hand if we desired. We got along very pleasantly.

2 Mr Price saw where these views were taken?

A - Yes, he was present at all of them. His photograph is in a number of the views.

2 Now state what you have to say about these photographs accurately representing the material in the bank, that is, either in an absolute or comparative sense.

A - The photographs represent strictly the size and dimensions of material.

Of course the color is not shown.

By means of a magnifying glass the coarseness of the material can be ascertained from this fact that I made use of a device - a large canvas tape which I hung over the bank. This

is divided into foot marks and it was hung over the banks so that a distortion from perspective ^{would} ~~can~~ be avoided.

Q Was that tape on a correct scale?

A Yes, the tape is here.

Q Just exhibit it please to the Court?

X A Here it is. It is ⁸⁰ ~~8~~ feet long. And at every ten feet is a digit ~~I~~ representing 10, 20, 30 and so on up to 80. These black and white marks are a foot long.

Q That you know?

A I measured it and I know it.

Q What is the color of the lower strata of the upper washings?

A In some of the old banks they are quite redish owing to the top red soil above, the water trickling down and coloring them. But where the red soil does not affect their color, where there is no red soil there they are of a yellowish color. I think the color of a postcard would probably be as near to it as I could describe it. There were two instances where

found blue gravel.

Q Who was the photographer that was with you?

A John A. Todd of Sacramento.

Q He is a regular photographer in Sacramento is he?

A Yes.

Q Has he a regular place of business here?

A Yes, I have been in his place of business.

Mr. Cadwalader Now understand the Court does not allow us to make any comparison with the lower bank.

The Court - No. You have his testimony and you can make the comparison yourself.

Mr. Cadwalader - Now, we offer these pictures in evidence.

The Court - Those showing the upper washings?

Mr. Cadwalader - State what each one of them is and hand it to the Court or the reporter.

The Court - What are the numbers of the pictures that pertain to the upper washings?

A. "Two" and "three" are omitted as being views of the deep pit. All the rest are views outside of the deep pit.

The Court - How many are there?

A. There are ten only.

Q. Then the views will be from one to ten omitting ^{two and} three?

A. Yes.

Mr. Cadwalader - Where was it you found the bank contained exceptionally large gravel?

Mr. Belcher - If any of those views go in we desire that all shall go in and we shall reserve an exception to any of them going in but we prefer that they all shall go in.

Mr. Hart - I suppose if they all go in the witness will be allowed to explain two and three.

The witness - This is a sketch on the west side of the large pit. The gravel strata consists of material ranging from pebbles to cobbles. The upper gravel strata ~~ten~~ feet consists almost entirely of cobbles.

fully six inches in diameter.

Q How much of a section?

A That is 10 feet. The gravel is heavier there.

Q I mean the longitudinal section?

A Well it extends for some distance each side perhaps 100 or 200 feet quite a long deposit.

Q Now take pictures one and two and describe them?

A Two and three you mean. Photograph No. two represents the bank northerly - North westerly ~~of~~ inside of the deep pit, in the direction of the channel looking in the direction of the channel a little west of the channel. The camera was on the bed rock and was looking in a north west direction.

Q What part of it represents the bank?

A The light color represents the bank. That below it is the talus or the material that covers the bottom. The bank is 131 feet above the bed rock of the pit as indicated. Photograph 3. represents the heaviest material in the pit.

That is taking the heaviest material in the pit.

Q Why did you do that? Why did you take that view? Was it by any one's request?

A. It was my own idea to be fair in the matter and to make a fair representation. I asked Mr. Price to point out to me the heaviest material in the pit and this view was taken of it. He is shown in the photograph. This shows a vertical wall about 40 feet high of very finely cemented gravel.

The Court - That is sufficient. That explanation is sufficient.

Mr. Hart - Does that show the blue cement?

A - This shows the blue cement.
The Court - Never mind that.

Mr. Hart - Before the cross-examination commences I suppose it will be in order to prove by this witness that the material in the upper washings as shown by the photograph in this case that is, in the old washings, is equally as heavy as all of the material in the lower

washings except a small stratum within 30 feet of the bed-rock,

Mr. Belcher. To that we object upon the ground that it is not in rebuttal.

The Court - The objection is sustained.

Mr. Hart - We except.

Mr. Cadwalader - Now we offer in evidence these two rocks which were found by Mr. Allardt yesterday approximately near 12 o'clock, along the line of movement of the water of the American river and about 200 feet from the bank and about seven feet below the high water line of last winter on what is called the ^{Rooney} ~~Rooney~~ ranch. They were in the main bed of the river in a place where the bed is straight for a mile and a half. And we offer to prove also that there are over a thousand lineal feet of material there and that this is the heaviest material but that ~~this~~ it is graded down to fine gravel and is evidently the deposits of the flood of 1887.

Mr. Belcher. To that we shall object that it is not in rebuttal.

Q The Court sustained the objection
and counsel for the plaintiff excepted.
Mr. Cadwalader One of these rocks
is serpentine and the other quartz?

— " —
Re-Cross-Examination.

Mr. Belcher Mr. Allard: do you
know in regard to photographs whether
they distort the parts at the side and
at the top and bottom - if there is
not a considerable distortion?

A There is no distortion. It is the
effect of the perspective.

Q Do they not always distort?

A On the edge of the picture there
is always a dimness I believe.

Q If the photograph is taken of
a man say and his hand held out
will it be in its proper form as
compared to his face?

A If it is any nearer to the
instrument it will be larger in
proportion than his face.

The Court. Do you intend to prove
any more than the visual angle?

Mr. Belcher. We simply want
to prove that at the sides and

above and below the picture would be different from that in the immediate center.

The Court - That is you want to show that the angle spreads from the camera and projects in all directions.

Mr. Belcher - Yes,

The Court - That is undoubtedly so.

Mr. Belcher - If the Court takes that view I do not care about going into it.

The Court - There is no doubt about it. You start at the camera and the angle goes in every direction. The same is true with the eye but we become accustomed to judging.

Mr. Belcher - In picture Number 5 - how high did you say that pillar was?

A - I did not state it, but it is marked there. The top is 140 feet above the bed-rock.

Q - The height of the pillar itself?

A - The elevation of its peak; that is, its highest pinnacle.

Q - That is the elevation of the peak above the ground?

A - No, sir. Above the plane of

elevation which is the bed-rock in the deep pit.

Q. I want to know how high it is upon the plane upon which it stands - upon which its base rested?

A. The gravel has been all washed away there (Pointing) There is a ~~man~~ picture of a man and that will serve as a scale - it is about 36 feet.

Q. From 36 to 40 feet there is shown in the picture?

A. Yes.

Q. Will you measure the height of that man in this picture No. 1?

A. There are three men here.

Q. Measure each one of them by your tape line?

A. It will not ~~do~~ to measure anything by the tape line except something which is in immediate juxtaposition with the tape. The tape there is not in a vertical position. It is on the talus.

Q. Is he on the talus?

A. He is. But he is not lying down on the talus while the tape is.

Q Measure him with your scale there on the tape lines. Take the tape lines and measure it.

A That would not be correct, I would make him 14 feet high. The tape is lying on the ground while he is standing up.

Q How high is the other fellow up to the side?

A It is the same there. The tape line is not vertical.

Q How high is he? A He would be 7 feet ^{high}.

Q Was that Price or Yourself?

A That was Mr. Moody. He was a very large man of good height.

Q There is another man at the top, how high is he? A. That I think would be he was probably a little back, ~~and~~ He was a half a foot back and he would show a little higher, you cannot see the whole man there. His feet are not visible. He would measure five feet high as far as he is visible.

Q Then the men represented there are from five to 14 feet high? What is the difference between the height of the men in your picture if you take your picture as a guide? A. No sir, That is incorrect. That statement is not correct.

Testimony
of
John A. Todd

Sworn for the plaintiff in rebuttal, testified

Mr Hart - Mr Todd, what is your occupation?

A - Photographer sir.

Q - Where?

A - In Sacramento.

Q - Have you ever visited the Gold Run mine?

A - Yes.

Q - With the view of doing what?

A - Photographing the general character of the mine.

Mr Belcher:- We interpose the same objections to this testimony.

Mr Hart:- Of course it is understood that this is under the same objection.

Q - Did you take a number of views in that mine?

A - Yes.

Q - Of the old and new workings in the mine?

A- Yes.

Q- Under whose direction?

A- Mr Allardt, the Civil Engineer.

Q- State whether or not these views as represented in the pictures fairly represent the mine or the views taken of it?

A- I presume those are the ones. Those are evidently the views. Those are the views that I took.

Q- Do they correctly represent the mine?

A- Yes. They correctly represent the character of the material that was presented to the camera.

Q- Did you examine the pyramids and the banks extending in the old workings in the mine, or old workings?

A- I did.

Q- Did you examine the material in that?

A- I did.

Q- What kind of material was it generally?

A- The general material was in a miner's phrase gravel of different

characters in regard to coarseness or fineness.

Q Have you ever been a miner?

A Yes,

Q What kind of gravel was this generally? You say it was of different character so far as coarseness and fineness are concerned? State the character of the gravel?

A In the upper strata or rather the old workings?

Q The old workings that is what I want.

A There was but very little variation in the character.

Q What was it?

A The material was gravel and soil - what is expressed by those terms. The soil was intermixed with the gravel.

Q How large was the gravel in the upper stratum?

A It would vary from small particles to the size of your fist and larger but ^{not} any larger than that I think.

Q What proportion of it was rock?

A- In the strict sense of the term I did not see any rock in the upper workings. Gravel is rock and rock is gravel. I should say they were about equally divided - Probably about 50 per cent filler.

Mr Hart:- It is in the old washings?

A- I could not express myself in regard to the old or the new washings.

Q- It is in the upper washings?

A- I should think it was in the upper washings. I should think it was certainly.

Q- You say it was cemented - cemented with what?

A- In a miner's phrase it would be classified as I understand it with cemented dirt. Probably in a technical phrase that may not convey the proper meaning. I do not think there is any cemented dirt there except what has become so by the cohesion from the super-abundant pressure. I think the

material is precisely the same. I noticed particularly in the upper stratum, the upper washings, the cementations appears to have been acquired from superabundant pressure and from that alone.

Q- State whether or not - take for instance this picture - state whether or not there is anything in that picture to distort or deceive. State whether it is a correct representation?

A- It is a correct representation.

Q- Is it so with the others?

A- Yes.

Q- Are the other pictures accurate?

A- Yes.

Cross-Examination

Mr. Kattin: - You mean Mr. Todd that they are correct as photographed. As a photograph this is correct?

A- As a representation it is correct sir.

Q- Does it give you any

idea of the distance? Can a person ascertain say from picture No. 1 the longitudinal distance from the base of the picture to the bottom of the tape line?

A- Undoubtedly if he had the capacity to understand the fundamental rules of perspective. They are mathematically correct sir.

Q- How far in feet is from the stone here at the bottom of this picture to the point where the tape line is, that is the longitudinal distance, how far is it?

A- Well to make a statement of that kind from my observation now it would be guess work but it can be given accurately.

Q- Would not your observation or your answer rather depend on what you saw there instead of what you see in this picture?

A- It is just the same as I can tell you how far that wall is from me now. I can

no nearer to it than you can. But this is a correct representation nevertheless.

Q-Can a person form an idea here who has never seen the ground of what the distance is from this point, the bottom of the picture to the point where the tape line strikes the bottom?

A-Yes undoubtedly.

Q-Well what is it. How many feet?

A-I should say from where I was standing with the camera to the bottom of the tape line it is verging on 150 feet.

Q-What is the vertical height from the point at the bottom of this picture to where the tape line terminates?

A-Possibly 100 feet.

Q-Then from the bottom of the tape line to the top of it is how much?

A-From the bottom of the tape line to the top of it is

80 feet.

Q-Is the difference properly represented in the picture there?

A-Certainly.

Q-It is about 80 feet from here to here?

A-Certainly it is air.

Q-Is there not a much greater distance proportionately from here to here than there is from here to here?

A-Not at all sir. Allow me to explain. You take up your hand in this direction and it will cover the wall. It is from the position in which things are.

Q-It is about 12 inches from the bottom of the picture to where the tape line strikes the surface?

A-Yes.

Q-And here covers 180 feet. And 12 inches covers 180 feet. Is there not a great disproportion in that?

A-No sir. If it were otherwise it would be incorrect.

Q-I am speaking of it as it is so far

as your representation of the distance is concerned?

A. It is correct. I presume you are aware that all distances verge to a point.

Q. Are not the objects that are in the foreground of the picture much larger in proportion than those in the rear?

A. No sir.

Q. Then there is no perspective in this at all?

A. Yes.

Q. Take that man standing near the top there. How high would he be according to this picture?

A. He would be six feet high or nearly so. If he were standing there.

Q. Here are two men standing very near together in the picture and one is an inch and a half ^{high} and the other about a quarter of an inch. Can you tell what the distance is between those two men in this picture?

A. Yes I presume I could. That is indicated by the perspective. You can tell it at a glance. I am not so conversant with it but in a few hours time I could tell the exact distance according to the mathematical

rules of perspective.

2. In Picture number 8 there is a picture of a man standing in the line in which the tape-line starts about an inch and a half or two inches in length. And there is a picture of a man standing immediately at the point where the tape-line terminates or very near who is about a quarter of an inch in height. Is there anything in this picture by which a person can ascertain the distance between those two men? The standing points of those two men?

A. To a person of ordinary intelligence a casual observation will give the exact difference.

2. You know there is a distance but can you tell how much distance there is from this picture?

A. Allow me to explain. There is no scale to this. There is no perspective scale in this.

2. How can the distance be determined from the two points between where these two men stand?

A. The pictures were not taken purposely to give the horizontal

distances, they were taken to give the vertical distances but all that appears on the horizon is in proper proportion nevertheless.

Q. Now in picture number five you say the pinnacle of the pyramid or column there was about 100 feet below the top of the original washings?

A. I should think so, about that sir.

Q. And how much of the height of that column is given in this picture?

A. There is another picture that is an accompaniment of this that shows the face of it.

Q. Can you determine it from this?

A. If I saw the other I possibly could.

Q. But you can not do it from this picture?

A. It is about 80 feet from here to here. And this is about 150 feet.

Q. Mr. Allardt said that this was 140 feet from the bed-rock. Suppose it to be 140 feet from the bed-rock or assume it to be so what would be the distance - the length of the pyramid as represented in the

picture?

A. About 140 feet - 120, 130 or 140 feet. This probably is the bed-rock. I am not certain now.

Q. You do not know where the bed-rock is?

A. No sir.

Q. You do not call this the bed-rock do you? This surface here?

A. No sir.

Q. What does this represent here?

A. This represents the coarse gravel. What I presume possibly is the coarsest material that we met with in the mine.

Q. How far was that above the bed-rock?

A. I could not say.

Q. You did not observe?

A. No sir. No matter how observable I might have been I could not say as to that.

Q. Did you see any places where the bed-rock was ^{exposed?}

A. Certainly sir, more particularly at the lower end of the column.

Q. You saw the bed-rock. Now can not you tell how high the surface

is of that picture Number three from the rough surface. - how high above it is?

A. I could not guess even at that. It is a pretty rough place to climb. Q. You have spoken of the old washings?

A. Yes. That is, the first washings from the surface; that is what I mean by the old washings.

Q. That is what I supposed. Take Number 8, this view here. This portion of No. 8, is what you call the old washings?

A. Yes.

Q. Now that you say contained sand, red soil and gravel and stones up to the size of your fist?

A. And some a little larger.

Q. Some of that larger or larger than your fist?

A. Yes, certainly.

Q. Were there many of them that were ^{much} larger than your fist?

A. I think not.

Q. Now of what mines could you determine the proportion of the bank - of the old washings so as

to be able to say that 50 per cent of it would be gravel and stone?

A By what means?

2 Yes.

A By close observation.

2 It was simply your view by your eye of the face of the bank?

A Simply as it presented itself to my vision sir.

2 I understood you to say that there was no cement in this material what is ordinarily called cement?

A What is ordinarily called cement by miners.

Mr. Hart. You were asked about those rocks on cross-examination in picture number three are the lower part of the picture to the point where the tape-

Mr. Catlin. Object to that, I did not ask him about those rocks in picture number three.

Mr. Hart - at the lower end of the tape-lined what does that represent from the lower part of the picture to the tape-lined?

Mr. Catlin - Object to that question;

it is not in rediect examination,
Mr. Hart - I want to know what it
represents.

Mr. Cathin - I object to that.

The Court - He said it represented the
heaviest material in the mine.

Mr. Hart - Is that level there?

A - It is not. It is not level.

Q What is it?

A - It is a slight inclination perhaps
20 degrees.

Q What are those rocks there?

Mr. Cathin - I object to that. It is
not in rediect examination.

Mr. Hart - I asked you what those
rocks are?

Mr. Cathin - I object to that.

Mr. Hart - I want to show that
these rocks here are really small
pebbles although they appear to
be large.

The Court - I do not think that makes
any difference.

Mr. Cadwalader - We present here
the report of Colonel Mendall made
to the Secretary of War the correctness
of part of which was verified by Mr.
O'Brien. It is germane to this subject,

Next, I present a work called
 "Hydraulic Mining in California
 by Bowie."

Next, I present the report of the
 Surveyor General of the State of
 California from August 1st 1879 to
 August 1st 1880.

Next I present a report on the
 Georgetown divide by Doctor Amos
 Bowman. These books I presume will
 be received on the same footing
 as the other reports were that
 have been introduced.

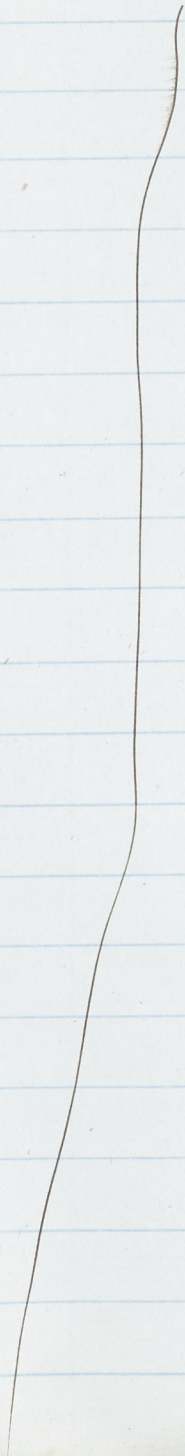
Mr. Belcher. We desire to take
 a little time to examine these
 books before we make our objections.

Mr. Cadwalader. Here is also
 a report of the Committee on Medical
 Topography and meteorology endemics
 and epidemics made to the Medical
 Society of the State of California at its
 annual session held in San Francisco
 in April 1881 by M. M. Chipman
 Chairman of the Committee - subject Mining
 and Debris deposits. Those are the reports we offer.
 Mr. Hart. We want to offer this diagram
 made by Mr. Allard and
 referred to in his testimony. It

contains the tables to which he alluded
and I want to have it marked.

Mr. Belcher. We will make our
objections to these reports and
this diagram hereafter.

The Court here took a
recess until 7 o'clock P.M.



In the Superior Court of
the State of California in and
for the County of Sacramento.

The People of the State of California	} Evening Session
vs	
The Gold Run Ditch and Mining Company	} January 23 rd 1882

Transcript
of
Testimony
Volume

Wm. J. Davis
Official Reporter

Mr. Belcher - We object to the introduction in evidence of anyone of these books.

The court - That does not include the diagram.

Mr. Belcher - No Sir.

The court - That I understood was received.

Mr. Belcher - No Sir. We shall object to that also. So far as the reports of the State Board of Health are concerned they are already in evidence.

There is a report by a man by the name of Chipman and it is not a part of the report of the State Board of Health.

Mr. Leadwala der - You are mistaken about that.

Mr. Belcher - If it is a part of their report it will appear in their volumes, but it is not, and was written by him. If it is a part of their reports and is in their published volumes then it is already in

evidence and there is no necessity of introducing it again.

Mr. Badwalader - It was accepted by the State Board by a resolution.

Mr. Belcher - There are four volumes of their proceedings in evidence and if this is a part of one of those volumes it is already in and it does not need introduction now. I object to it, first; that it would not be admissible if they were making their case in chief; and second; that it is not admissible in rebuttal.

Mr. Badwalader - It is extracted from the proceedings of the Society. It is a part of the proceedings of the Society.

The learned - There are a great many of these matters that I would like to look at but so far as they are concerned in this case I presume that we can not

admit them except by stipulation. The other reports were admitted through the liberality of Counsel.

Mr. Cadwalader - We will then insist on our objection to those other papers.

The Court - They have rested their case and you could not do it now it is too late.

Mr. Cadwalader - There is a work on hydraulic mining in California.

Mr. Belcher - And it is one of the most unreliable works to be found.

The Court - So far as it relates to general science and not to facts I suppose it might be admitted. So far as it relates to general science probably it can be read but so far as special facts are concerned it is not sworn testimony and it could not be received except by consent.

Mr. Cadwalader - But so far

as it is historical I presume it is admissible.

The law - So far as Col. Mendall's reports are concerned I would be pleased to be instructed by them.

Mr. Cadwalader - There is a report of the Surveyor General which comes from the Executive Department of the State Government and is made evidence under the Statute. It is published by authority of law and contains matters that the County Assessors are obliged under the law to furnish the Surveyor General with.

Mr. Belcher - That should have been made a part of their case in chief and it is not in rebuttal.

The law - I hardly think it would be evidence of any facts, of course, where you want to prove such a report as that was made it is admissible.

Mr. Cadwalader - The next is the report of Col. Mendall on this subject.

Mr. Belcher - To that and to all of these books we make the same objection.

Mr. Cadwalader - We do not offer these in evidence as bearing upon the facts but we stated that they are papers from which we expect to read upon the argument.

The Court - You can present them at the time of the argument and you can present me with whatever law you ~~think~~ have or authorities to show your right to read from them.

Mr. Cadwalader - There is a report on the Georgetown Divich by Amos Bowman which is of interest historically.

The Court - You doubtless would not have me take that as evidence of facts. Is it could not be admitted. Some of these things are

no doubt very instructive
 { The Court after discussion
 declined to receive the books
 in evidence }

ex. Mr. Badwalader - There is a
 report made by some engineers
 in 1862 as to the water section
 and that would go out under
 the same exception I presume.

The Court - That would be
 under the same rule I think.

Mr. Badwalader - It shows
 462,000 inches of water at
 Folsom.

The Court - I understand, you
 claim that that evidence
 is already in. Mr. Hall
 testified that it might reach
 400,000 inches.

Mr. Badwalader - Yes Sir, it
 would be the same thing.

Mr. Belcher - We object to
 this diagram marked
 "Allardts exhibit 11" in
 rebuttal upon the same
 grounds. It is not in
 rebuttal.

The Court - It may be

used as an illustration of the theories of the Witness but not as evidence of any fact recited in the diagram.

Mr. Belcher Then there is no objection to that.

Mr. Harb I think that the profile made by Mr. Allardt is in evidence.

The Court - I think it is in evidence. I think it has been admitted. It is in evidence simply as a diagram as illustrating his testimony.

The Plaintiff here rested.

Testimony
of
E. C. Uren

Recalled by the defendant.

Mr. Belcher (Handling Witness
a paper marked "Number 12")

Mr. Uren have you prepared
a profile of the River down to
Rice's Bridge showing the
present surface and the
bottom according to the
tables which you gave?

A- Yes Sir. I have a
hastily drawn profile here
which I made yesterday.

Mr. Hart - We shall object
to any testimony from Mr.
Uren, either as to any profile
that he may have made
or as to any made about
which he testified in chief
upon the ground that it is
not in re-rebuttal. He
has been examined in
relation to this matter
fully and that the testimony

which we have given in this case is simply in answer to his testimony. His testimony ought to illustrate itself so far as he is concerned. We should have been fully examined then.

Mr. Belcher - The testimony which we now seek to offer is in rebuttal to the plat which Mr. Allardt made and which he presented here and to his testimony.

The court - To show that it is not in accordance with Mr. Weiss table?

Mr. Belcher - Yes sir.

The court - I will allow you to do that.

Mr. Hart - Then they will confine the testimony to Mr. Allardt's plat.

The court - There is no such strict rule as that.

Mr. Belcher - What is the fact in regard to the depth or whether there was any sediment deposited at Pickering's

Bar?

The court - The records show that.

Mr. Belcher - The records show that he stated that ~~is~~ 12 feet deep.

The court - Will then ask that.

The Witness - The table shows a depth of 12 feet at Pickering's Bar.

Mr. Hart - The table shows that?

A - Yes, Sir, and the table shows to the end of the first section - that is 12 feet deep at the upper end and -

Mr. Hart - (Intg) The table is in evidence.

The Witness - The upper end of the first section is 12 feet and the lower end 12 feet deep and the cubic contents will be shown by reference to the table. It can be figured out. You can find out by figuring it out.

Mr. Badwalader - That would be nothing more than a mathematical computation.

Mr. Belcher - Look at this plat and see if that shows a depth of 12 feet? (Referring to the paper marked "Mardts Number 12")

A - It shows nothing. It runs to zero at the upper end where it should run to 12 feet. That is what make the grade in the bottom so heavy as what it is given.

2 - What are the surface grades taking your own plats - What are the surface grades as you have plated your own table?

Mr. Hunt - We object to that. His table is in evidence. His former testimony shows that fact.

Mr. Belcher - I will ask you if you have plated your tables?

A - Yes, Sir.

2 - Have you plated them correctly?

A - I have.

2 - What are the surface grades

Mr. Badwalacker - I object to that.

The Court - You may answer.
The Witness - The grade from Canyon Creek to Pickering's Bar is 71.70 feet per mile.

Mr. Cadwalader - I object to this it is new testimony and I move to strike that out. It is plainly contradictory to what he swore to on two occasions. His plat ^{commences} ~~gives~~ at Pickering's Bar and he stated 3 times that the maximum was 45 and the minimum was 35. It appears not less than six places in his answers. I move to strike those out.

The Court denied the Motion
ex Counsel for plaintiff excepts.

The Witness - That is the surface grade. The grade from Pickering's Bar to Warner's Bridge is 46.09 feet per mile.

The Court - That is the same.

Mr. Belcher - Yes sir.

Mr. Cadwalader - His diagram commences at Pickering's Bar and he never gave the grade

before except on cross-examination.

The Court - I understand that this is according to the table.

The Witness - The first section from Canon Creek to Pickering's Bar is not from the table but from Pickering's Bar down is from the table.

Mr. Cadwalader - I move to strike that out.

The Witness - It is from my notes but not from the table.

The Court - Let that go out from Canon Creek to Pickering's Bar.

ex Mr. Belcher - I except.

The Court - Take it from Pickering's Bar down?

The Witness - From Warner's Bridge to Stevens Bridge the grade is 40.39 feet per mile. The grade from Stevens Bridge to Rice's Bridge is 36.61 feet per mile; that is the surface grade.

2 - That is the surface grade?

90.09
 175.00
 49.00
 5121
 3368
 348
 3

A - yes.

The court - According to your table?

A - I am giving it from Pickering's Bar down.

Mr. Badwalader - I object to his reading from that.

The Witness - The grade from Pickering's Bar to Warner's Bridge on the original bottom is 90.09, or 72.75 per mile. The grade from Warner's Bridge to Stevens Bridge on the original bottom is 173 feet or 39.26 feet per mile. The grade from Stevens Bridge to Rice's Bridge on the original bottom is 49 feet or 21.35 per mile.

Mr. Badwalader - What is that on the bed rock?

A - The bottom of the fill.

The court - The difference is just 12 feet.

A - The difference is 12 feet on the upper end yes.

Mr. Belcher - We offer this diagram in connection

with his testimony. We will mark it "Wren Lerebuttal Number One"

2- Mr. Wren will you explain about these marks here. These ascending grades and your depths of 60 feet and 30 feet and the changes from one to the other.

A- From the estimated depths as they run down from the surface grades? They may vary sometimes as much as ten feet. At one station there would appear to be a hole in the bottom of the river.

The Court - His estimates were averages and Mr. Allardts was taking them to be uniform and of course that is a very different thing. That would hardly require an explanation.

Cross examination
of
E. C. Wren

Mr. Cadwalader - Your surface line is a true line is not it from the mouth of Cañon Creek down to Rice's Bridge?

A - No Sir. The grade changes at all these stations as I read them.

Q - Changes where?

A - The true line from Cañon Creek to Pickering's Bar -

Q { Lutz } Never mind that, that has been stricken out.

Mr. Belcher - I insist that the Witness shall answer that question.

Mr. Cadwalader - I will withdraw the question.

Mr. Belcher - Object to his withdrawing the question and I ask that it be answered.

Mr. Cadwalader - Where was your first station according to your plat?

A - According to my plat?

2- Yes, Sir?

Q- According to the plat it was at Canyon Creek but according to the table-

2 { Duly } I mean according to the plat?

A- This is from Canyon Creek.

2- Where was your first station?

A- The plat is drawn from Canyon Creek - the map itself.

2- I mean your plat - the figures?

A- You mean the table?

Q- The table, yes?

A- From Pickering's Bar.

2- What part of Pickering's Bar?

A- The upper end of Pickering's Bar. The table shows the lower end of this section. It does not show the initial point or the zero point.

2- You do not know what the average is there at the head of Pickering's Bar?

A- There is an average of 12 feet at the head of Pickering's Bar.

3384 Mr. Leadwuladen - The fill of

12 feet was at the foot of Pickering's Bar?

A- At the head and the foot both so the table shows. It shows that in my calculations of quantity.

Q- Have you the table in your book?

A- Yes.

Q- Give it to me for a moment.

A- The contents are figures.

There is shown the contents to be 12 feet at each end.

Q- Where did the station Number One commence?

A- It commenced 450 feet I think above where the table calls for there.

Q- I did not ask you that. Where did it commence?

A- At the upper end of Pickering's Bar.

Q- What part of Pickering's Bar?

A- The upper end.

Q- Where did it run to, (Where is the next station)?

A- The next station is 450 feet below. I think it is 450

I do not know the exact figures and I can not tell until I see the book.

Q - Was there a 12 foot fill at the place where you started station Number One?

A - Yes. Station Number One is marked there. It is marked at the end of the first station.

Q - That is not what I asked you. Was there not 12 feet fill at the commencement of Station Number One?

A - Yes.

Q - Do you not know that you testified that there was no fill there at all?

A - I did not

Mr. Belcher - I object to that if he testified so it is in the record.

A - I read from this table when I testified.

Q - Did this fill of 12 feet extend throughout the whole of that section?

A - Yes.

Q - From beginning to end?

A- Yes; from beginning to end.
The Court- The question is now what his notes show and not what the facts are.

Mr. Badwalader- It is necessary to get the Witness to some starting point.

The Witness- I gave it at through the section of the bottom.

Q- Where is your last station?

A- At Rice's Bridge

Q- What fill do you have there?

A- Fine fill.

Q- Who constructed this diagram?

A- I did.

Q- Under whose inspection?

A- No person but myself. I did it yesterday afternoon.

Q- Does this show any ascending grades?

A- Yes, in the bottom.

Q- In the bottom?

A- Under the bed.

Q- Does it show any ascending grades for say, long sections?

A- I believe not.

Q- How?

A- I believe not.

2- Does it show over a mile with any grade at all?

A- No sir.

2- What grade does it show from Stevens Bridge up to the end of Station 4?

A- I did not figure it at those stations.

2- What is the reason you did not put the grades of the bed-rock line on this?

A- Because I did not think it was necessary.

Mr. Cadwalader - We want this book here. We want it kept here.

The Witness - I want that book myself. I have other matters in it.

Mr. Cadwalader - The Reporters will keep it and return it to you.

Mr. Belcher - Whatever you want, it can be copied.

Mr. Cadwalader - The other papers seems to have been mislaid and we want this.

The Witness - There is a copy

of it at the State Engineers office
Mr. Belcher - They are entitled
 to just so much of it as he
 made use of in making that
 plat, nothing more.

The Witness - There are other
 surveys in that book that I
 do not wish to be examined
 in this Court.

Mr. Caldwell - It seems that
 there is a printed copy of this.

The Court - Then it is in
 the record already
 I presume.

Mr. Belcher - Yes, sir

Testimony

J. H. Smith Jr.

Recalled by Defendant in re-submittal.

Mr. Belcher. Are you acquainted with the drainage area of the Yuba River?

A. I am very well acquainted with it.

Q. And particularly did you observe the tributaries, creeks and ravines named to which the attention of Mr. Allardt was directed in his cross-examination?

A. I did. I am familiar with every one of those.

Q. Slate Creek, Shady Creek, Dry Creek and the others?

A. Yes.

Q. State, if you know, the amount of material deposited in the bed of those creeks and ravines?

Mr. Allardt. The object to that on the ground that it is not in rebuttal. (The question was withdrawn.)

Mr. Belcher. Are you acquainted with the river at Edwards bridge, at Freeman's, at Bridgeport and are you generally acquainted with the

miners themselves and the amount of deposits therein?

A. For the past twelve years I have been very familiar with those portions of the Yuba River?

Mr. Cadwalader. We object to this as not being a portion of the rebuttal.

Mr. Belcher. This is asking for a specific fact.

Mr. Cadwalader. Mr. Smith has already testified that there were approximately 116,000,000 cubic yards in the Yuba River.

The Witness. Excuse me. I said nothing of the sort.

Mr. Cadwalader. You said there were 350,000,000 cubic yards in all the rivers.

The Witness. I might have said that.

Mr. Cadwalader. And you assigned one third of it to the Yuba?

The Witness. I do not think I tried to make any proportion.

Mr. Cadwalader. I think you divided it.

The Witness. Excuse me. I did not.

Mr. Belcher. Our offer is to prove by this witness in this regard that there

is a very considerable deposit at Edwards bridge, at Freeman's, and at Bridgeport, extending for a considerable distance and plainly to be seen. It is simply in contradiction to the testimony of Allardt and nothing else.

Ex. <Objection sustained, defendant excepting.>

Mr. Belcher. What is the character of the gravel at the North Bloomfield?

Mr. Cadwalader. We object to that, as not in sur-rebuttal.

Ex. <Objection sustained, defendant excepting.>

Mr. Belcher. Are you acquainted with the country at the head-waters of Chico and Dry Creek?

A. No. I am not familiar with it.

Defendant rested.

By consent of counsel the argument was set for Tuesday, February 28th. 1882, at 2 o'clock P.M.

The evidence being closed, the said cause was continued until the 28th day of February, 1882, for argument. On the said last mentioned day, arguments were commenced, and were continued by the counsel for the respective parties, until the 9th day of March, 1882, when arguments were closed and said cause was submitted. The Court took time to consider of its findings and decree, and on the 12th day of June, 1882, made and rendered its findings and decree in favor of the plaintiff and against the defendant.

And the defendant now moves the Court to vacate and set aside its findings and decree, heretofore made and rendered in said action, on the following grounds, to wit:

First.—Insufficiency of the evidence to justify the said findings and decision.

Second.—That said findings and decision are against the evidence.

Third.—That said findings and decision are against law.

Fourth.—Errors in law occurring at the trial and excepted to by the defendant.

1.

And the defendant now specifies the following particulars in which the evidence is insufficient to justify the findings of the Court, to wit:

1.

The evidence is insufficient to justify the second finding of the Court, in so far as it finds that up to 1862 the Sacramento River "was navigated as far as the City of Sacramento without difficulty by steamers of deep draught, to wit, by boats drawing nine or ten feet of water," at all seasons of the year.

2.

The evidence is insufficient to justify the third finding of the Court, in so far as it finds that the larger portion of the bowlders, cobble-stones, gravel, sand and clay discharged from the hydraulic mines, finds its way into the principal confluent of the Sacramento River, and is deposited along said streams from the place of discharge or dump to the San Pablo and San Francisco Bays.

3.

The evidence is insufficient to justify the fourth finding of the Court, in so far as, by implication, it finds that hydraulic mining had not been practiced in the mountains of the Sacramento basin for more than twenty years prior to the trial of said action; and in so far as it finds, by implication, that up to 1875, or thereabouts, hydraulic mining had been practiced to some small extent in the said Sacramento basin; and in so far as it finds, by implication, that hydraulic mining, as an industry, attained its greatest magnitude about 1875; and in so far as it finds, by implication, that hydraulic mining as an industry is confined principally to the counties of Butte, Yuba, Sierra, Nevada and Placer.

4.

The evidence is insufficient to justify the fifth finding of the Court, in so far as it finds that large quantities, or any quantity, of tailings from the hydraulic mines on the North Fork of the American River, have been deposited in the American River, throughout its entire course, or in any portion of said river, or have been washed or carried down into the Sacramento River; and in so far as it finds, by implication, that

all the sand, sediment and debris in the American and Sacramento Rivers have been washed and carried into them from the hydraulic mines on the North Fork of the American River.

5.

The evidence is insufficient to justify the sixth finding of the Court,

First.—In so far as it finds that the bed and channels of the Sacramento River, below the mouth of the American River, have been filled up and raised from six to twelve feet by tailings and deposits from hydraulic mines, with other matter carried by the waters of the said rivers ; and

Second.—In so far as it finds that the bed and channels of the American River, below Alder Creek, have been filled up and raised from ten to twenty feet by tailings and deposits from hydraulic mines, with other matter carried by the waters of said river ; and

Third.—In so far as it finds that such filling has been materially increased by the tailings from the hydraulic mines ; and

Fourth.—In so far as it finds that any fillings caused by material from the hydraulic mines have materially impaired the navigation of the Sacramento River, or have materially increased the liability of the Sacramento River, or the American River below Alder Creek, to overflow their banks ; or, have caused the floods in said rivers to be more destructive than they otherwise would have been ; and

Fifth.—In so far as it finds that the debris from the mines has materially contributed to the filling of said river channels, or has interfered with or obstructed the free and comfortable use and enjoyment of large portions, or any portion, of the land upon the American or Sacramento River ; and

Sixth.—In so far as it finds that debris from the mine of the defendant has materially contributed to the filling of said river channels, or has interfered with or obstructed the free and comfortable use and enjoyment of large portions, or of any portion, of the land upon said rivers ; and

Seventh.—In so far as it finds that the debris from hydraulic mining has increased and aggravated, or does increase and aggravate, the evils arising from the obstructions caused by the levees and levee system of the Sacramento River, and, by the erosion of the bank of the Sacramento River opposite the mouth of the American River, or, the break in the levee at said point caused by the change of the course of the American River, or, any evils caused or produced by floods in or by the said river, or otherwise ; or, renders the problem of controlling the streams, and the protection of the valleys more difficult and expensive ; or, causes more land to be injured, and the free enjoyment thereof to be interfered with than otherwise would have been injured or interfered with.

6.

The evidence is insufficient to justify the tenth finding of the Court, in so far as it finds,

First.—That a large portion of the material dumped by the defendant into the North Fork of the American River, has been washed down said river and deposited in the beds and channels of the Sacramento and American Rivers, and upon the lands adjacent to said rivers ; and

Second.—In so far as it finds that the filling up, raising and shallowing of said rivers has been materially increased by the mining of the defendant, or, that the mining operations of the defendant have materially impaired the navigation of the Sacramento River, or,

have contributed to the overflow of the lands adjacent to the American and Sacramento Rivers, or, to the injury of said lands, or, to the damage, discomfort or annoyance of the owners of and residents upon said lands.

7.

The evidence is insufficient to justify the eleventh finding of the Court in so far as it finds,

First.—That the bed of the Sacramento River has been so widened that the depth of the water therein has been lessened, or that the said river is likely to fill more rapidly in proportion to the quantity of hydraulic tailings in the future than in the past; and

Second.—In so far as it finds that the earthy matters, with which the waters of the said river are laden, come chiefly from mines; and

Third.—In so far as it finds, by implication, that thousands of acres of good land in the Sacramento Valley have been covered by debris from hydraulic mines, or that, if some preventive is not applied, further and greater injury is likely to ensue in the future from that cause, or, that large tracts of land will probably be thereby rendered unfit for cultivation and inhabitation.

8.

The evidence is insufficient to justify the twelfth finding of the Court in so far as it finds,

First.—That the discharge from the defendant's and other mines fouls the water of the American River so as to render it unfit for domestic use; and

Second.—In so far as it finds that the discharge from the defendant's mine fouls the water of the American River, or renders it unfit for domestic use.

9.

The evidence is insufficient to justify the fourteenth finding of the Court, in so far as it finds,

First.—That there is danger that the beds and channels of the lower portion of the American and of the Sacramento, below the mouth of the American, will be so filled and choked up by tailings, if the defendant and others are allowed to continue their mining operations, that said rivers will be turned from their channels, and will cut new water-ways, or will injure or destroy immense tracts of land, or will impair the navigability of the Sacramento River; and

Second.—In so far as it finds, by implication, that there is danger that the beds and channels of the lower portion of the American River, and of the Sacramento, below the mouth of the American, will be so filled and choked up by tailings, if the defendant is allowed to continue its mining operations, that said rivers will be turned from their channels, and will cut new water-ways, or will injure or destroy immense tracts of lands, or any land, or will impair the navigability of the Sacramento River, or contribute to its impairment.

10.

The evidence is insufficient to justify the fifteenth finding of the Court, in so far as it finds,

First.—That there has been, since the winter of 1861-62, a constant working down, in the channels of the rivers, of the heavier material deposited therein; and

Second.—In so far as it finds that it is almost certain, or even probable, that the larger part of the deposits which injuriously fill the rivers, is composed of material dumped into them from mines within ten years previous to the fill in said rivers.

11.

The evidence is insufficient to justify the nineteenth finding of the Court, in so far as it finds that the practice and custom of discharging tailings from mines into the most convenient stream or gulch is, or has been, confined to mining localities, and has not been recognized or acquiesced in, elsewhere.

12.

The evidence is insufficient to justify the twentieth finding of the Court, in so far as it finds:

First.—That neither the State of California nor the United States, has licensed the defendant, or any miner, to dump the tailings from his mines into the streams, and that this State has not legalized the right of miners so to dump; and

Second.—In so far as it finds that neither the Sacramento nor American River has been dedicated to the use of miners as a place of deposit for the debris from their mines; and

Third.—In so far as it finds that neither one of the causes of action set forth in the complaint is barred by or under the provisions of Section 315, or Section 338, or Section 343, of the Code of Civil Procedure of this State.

13.

The evidence is insufficient to justify the twenty-first finding of the Court, in so far as it finds,

First.—That the acts threatened to be performed by the defendant, in continuing to prosecute its mining industry, if allowed to be done, will, in connection with like acts by others, obstruct the navigation of the Sacramento River; and

Second.—In so far as it finds that said acts will fill up, to some extent, or to any extent, Suisun Bay; and

Third.—In so far as it finds that said acts will destroy or injure large amounts, or any amount, of land; and

Fourth.—In so far as it finds that said acts will constitute an obstruction to the free use and enjoyment of the property of a large number, or any number, of citizens of this State; and

Fifth.—In so far as it finds, by implication, that the prosecution and carrying on of its mining industry, by defendant, will in any way obstruct the navigation of the Sacramento River, or will fill up Suisun Bay to any extent, or at all; or will destroy or injure large amounts, or any amount, of land; or will constitute an obstruction to the free use and enjoyment of the property of a large number, or of any number, of the citizens of this State.

14.

The evidence is insufficient to justify the general finding of the Court,

First.—In so far as it finds that the greater portion of the sediment in the American River is from deposits from mines, made within the periods of the recurring high floods.

Second.—In so far as it finds that natural erosion cannot be held responsible for one-half the material which is carried in suspension to the Sacramento, and which is rolled along the bottom of the American River, below Alder Creek; and thereby, by implication, finds that the mining industry produces, or causes, or is responsible for, more than one-half of the sediment or material which is carried in suspension by the waters of the American River, and which is rolled along the bottom of that river to the Sacramento.

Third.—In so far as it finds that the wash from other sources than mining is generally the very lightest material, and that the wash from such sources would be easily managed by the waters of the rivers, or would be carried in suspension to Suisun Bay; and that the damage to the rivers, or to the adjacent land, caused by detritus from other sources than mining, would be slight.

Fourth.—In so far as it finds that mining debris furnishes the material which fills the rivers below the foot-hills; and in so far as it finds, by implication, that the mining debris deposited by the defendant within the past five years in the North Fork of the American River, is slowly but constantly creeping down the stream.

Fifth.—In so far as it finds that that portion of the North Fork of the American River, between Cañon Creek and Rice's Bridge, is a rocky gorge, or a gorge at all.

Sixth.—In so far as it finds that the banks in the present pit of the mine of the defendant are of a mixed character of sand, gravel and cobbles from top to bottom, and that the great proportion of the material in the lower pit is not heavier than ten per cent. of the largest material in the old washing.

Seventh.—In so far as it finds that the material in the river is graded as to size, down stream.

Eighth.—In so far as it finds that the heavy material can not hold back the lighter debris; and in so far as it finds, by implication, that the lighter debris, from the defendant's mine, is not, in fact, held back and restrained by the heavier material.

Ninth.—In so far as it finds that that portion of the material in the present pit of defendant's mine, which is not heavier than the largest cobbles in the old washing, will pass over the present grades of the river.

Tenth.—In so far as it finds that the grade of the North Fork of the American River, between Cañon Creek and Rice's Bridge, has been or is increased.

Eleventh.—In so far as it finds that the profile of the North Fork of the American River, between Cañon Creek and Rice's Bridge, made by E. C. Uren, C. E., and put in evidence by defendant, is incorrect, or that the estimates made by said Uren as to the quantity of the fill or deposit in said river, between said points, are too great.

Twelfth.—In so far as it finds that a considerable portion of the material coming from defendant's mine does, or will move down the said river below Rice's Bridge.

Thirteenth.—In so far as it finds that there are but few cobbles or boulders in the defendant's mine, or in the deposit from said mine, which exceed ten inches in diameter; or that the same would, theoretically or in fact, move down the river to any point below Rice's Bridge.

Fourteenth.—In so far as it finds that the conditions in the North Fork of the American River differ widely from those at the Polar Star Dump in Bear River, and that the material at the Polar Star Dump is heavier than that from the defendant's mine, and that the stream of Bear River is of less force than that of the North Fork of the American.

Fifteenth.—In so far as it finds that the material from defendant's mine is transported by the water from half a mile to six or eight miles, before it finds lodgment, and is graded by the action of the water.

Sixteenth.—In so far as it finds that most of the material from the defendant's mine, at ordinary stages of the water, passes over the obstruction afforded by the tailings imbedded in the North Fork of the American River, between Pickering's Bar and Warner's Bridge.

Seventeenth.—In so far as it finds that all but the very heaviest material coming from defendant's mine, will pass over the new grade at Pickering's Bar (said grade being 46 feet to the mile), at ordinary winter stages of the river.

Eighteenth.—In so far as it finds that the material from defendant's mine has been or will continue to be completely, or at all, sorted by the water, or that a large portion, or any portion, of it must or will move down the river below Rice's Bridge.

Nineteenth.—In so far as it finds that the coarser material from defendant's mine will travel slowly, or at all, to or below Rice's Bridge and towards Alder Creek.

Twentieth.—In so far as it finds that the injuries mentioned in the findings in said cause, have been produced by the aggregate of debris from the mines.

Twenty-First.—In so far as it finds that the plane of low water in the Sacramento River has been raised six and one-half feet since 1849.

Twenty-Second.—In so far as it finds that the bed of the Sacramento River at Haycock Shoals has been filled at least six and a-half feet, and perhaps much more.

II.

Defendant specifies the following particulars in which the findings and decision of the Court are against the evidence:

1.

The *third* finding of the Court is against the evidence;

First. In so far as it finds that the larger portion of the bowlders, cobble stones, gravel, sand and clay, coming from the hydraulic mines, finds its way into the principal confluent of the Sacramento River; and

Second. In so far as it finds that the larger portion of the bowlders, cobble stones, gravel, sand and clay coming from said mines, is deposited along said streams from the place of discharge or dump, to San Francisco and San Pablo Bays.

2.

The *fifth* finding of the Court is against the evidence, in so far as it finds that a large portion of the tailings from the hydraulic mines, on the North Fork of the American River, has been washed and carried down into the Sacramento River.

3.

The *sixth* finding of the Court is against the evidence:

First.—In so far as it finds that the tailings and deposits from the hydraulic mines have filled up and raised the bed and channel of the Sacramento River, below the mouth of the American, from six to twelve feet; and

Second.—In so far as it finds that the filling of the bed of the Sacramento River has been materially increased by tailings from the hydraulic mines; and

Third.—In so far as it finds that fillings from the hydraulic mines have shallowed the channels of the Sacramento River, or have materially impaired the navigation thereof, or have materially increased the liability of the Sacramento River and of the American River below Alder Creek, to overflow their banks, or have caused the frequent floods in said rivers to be more destructive than they otherwise would have been; and

Fourth.—In so far as it finds that the debris from mines, including the mine of the defendant, has materially contributed to the filling of the channel of the Sacramento River; and

Fifth. In so far as it finds that the debris from the mines, including the mine of defendant, has interfered with or obstructed the free and comfortable use and enjoyment of large portions of the land upon the American and Sacramento Rivers.

4.

The *tenth* finding of the Court is against the evidence:

First.—In so far as it finds that a large portion of the material dumped by the defendant into the North Fork of the American River, has been washed down said river by the water and commingled with the tailings from other hydraulic mines, and has been deposited in the beds and channels of the Sacramento and American Rivers; and

Second.—In so far as it finds that the filling up, shallowing and raising the beds of the Sacramento and American Rivers have been materially increased by material from the mine of defendant, or that the navigation of the Sacramento River has been impaired thereby, or the overflow of said river and of the American River increased thereby.

5.

The *eleventh* finding of the Court is against the evidence:

First. In so far as it finds that the earthy matter, contained in the waters of said rivers, comes chiefly from mines; and that said rivers are likely to fill more rapidly in the future, in proportion to the quantity of hydraulic tailings, than in the past; and

Second. In so far as it finds that thousands of acres of land in the Sacramento Valley have been covered with debris from hydraulic mines.

6.

The *twelfth* finding of the Court is against the evidence.

7.

The *fourteenth* finding of the Court is against the evidence.

8.

The *fifteenth* finding of the Court is against the evidence, in so far as it finds that there has been a slow but constant working down, in the channels of the rivers, of the heavier material, and that it is certain, or even probable, that the larger part of the material which injuriously fills the rivers, is composed of material dumped into the river from mines within ten years previous to the fill in the rivers.

9.

The *nineteenth* finding of the Court is against the evidence, in so far as it finds that the custom and practice of miners, referred to in said finding, to regard the streams as common ways for the discharge of mining detritus, and to use them as places of discharge and deposit therefor, is confined to mining localities, and has not been acquiesced in or recognized elsewhere.

10.

The *twentieth* finding of the Court is against the evidence.

11.

The *twenty-first* finding of the Court is against the evidence.

The *general finding* of the Court is against the evidence:

First.—In so far as it finds that the greater portion of the sediment in the American and Sacramento Rivers is from mining deposits.

Second.—In so far as it finds that the wash from sources other than mining is the lightest material composing the sediment in said rivers; or that the material which fills the rivers below the foothills is mining debris.

Third.—In so far as it finds that mining is the source from which the material has come which fills the channels of the Yuba and Bear Rivers, near their confluence with the Feather.

Fourth.—In so far as it finds that all the debris which defendant puts into the North Fork of the American River, save a small per cent., does not remain permanently above Rice's Bridge.

Fifth.—In so far as it finds that the heavy material discharged from defendant's mine cannot, and does not, hold back and permanently restrain, in the North Fork of the American River, the lighter materials coming from said mine.

Sixth.—In so far as it finds that the material to be washed, in the future, from the lower *stratum* of the mine of the defendant, will pass over the present grades of the North Fork of the American River, and find its way below Rice's Bridge.

Seventh.—In so far as it finds, by implication, that the entire quantity of tailings and detritus washed from the mine of the defendant since the year 1875, did not, at the time of the trial of said cause, remain in the North Fork of the American River, above Rice's Bridge.

Eighth.—In so far as it finds that a considerable portion, or any portion of the material coming from defendant's mine has moved, or will move down the river below Rice's bridge.

Ninth.—In so far as it finds that there are but few cobbles or bowlders in the defendant's mine, or in the deposit in said mine, which exceed ten inches in diameter.

Tenth.—In so far as it finds that the heavier material in defendant's mine, consisting of cobbles and bowlders would, in theory or in fact, move, or be moved by the water, down the North Fork of the American River, to any point below Rice's Bridge.

Eleventh.—In so far as it finds that the material from defendant's mine is transported by the water from half a mile to six or eight miles before it finds lodgment.

Twelfth.—In so far as it finds that most of the material from defendant's mine, at ordinary stages of high water, passes over the obstruction caused by the tailings imbedded in the North Fork of the American River, between Pickering's Bar and Warner's Bridge.

Thirteenth.—In so far as it finds that all but the very heaviest material coming from defendant's mine will pass over the new grade between Pickering's Bar and Warner's Bridge, at ordinary winter stages of the North Fork of the American River.

Fourteenth.—In so far as it finds that a large portion, or any portion of the material coming from defendant's mine must, or will move down the river below Rice's Bridge.

Fifteenth.—In so far as it finds that the coarser material from defendants' mine does or will travel slowly, or at all, below Rice's Bridge.

III.

Defendant specifies the following particulars in which the findings and decision of the Court are against law:

1.

The *twentieth* finding of the Court is against law.

IV.

Defendant specifies the following errors in law which occurred at the trial of said cause, and were excepted to at the time by the defendant:

1.

The Court erred in refusing to permit the defendant to prove by the witness, Hamilton Smith, Jr., that the one hundred million dollars capital invested in the hydraulic gold mines of California, is mostly California capital; that more than nine-tenths of all the capital invested in said mining industry in the State of California is California capital.

Evidence, Fol. 5534, 5537.

2.

The Court erred in refusing to permit the defendant to prove by the witness, Hamilton Smith, Jr., that the product of gold, at this time, is about ninety-six million dollars per year, and that it is and has been steadily decreasing since 1852, when it was one hundred and seventy millions per year. That the production of gold in California for the past ten years has been between eighteen millions and twenty millions of dollars per year, and that it was, for the twenty years preceding that, sixty-five millions of dollars per year.

Evidence, Fol. 5580, 5581.

3.

The Court erred in refusing to permit the defendant to prove by the witness, Hamilton Smith, Jr., that the stoppage of mining operations in the counties of California in which hydraulic mining is carried on, would have the effect to disorganize these counties, and nearly depopulate them, and would render them valueless as integral portions of the State government.

Evidence, Fol. 5632.

4.

The Court erred in refusing to permit the defendant to prove by the witness, Hamilton Smith, Jr., what are the plans contemplated for the construction of dams in the American River and other tributaries of the Sacramento River, the object of which is to restrain the flow of debris, and to prevent it from injuring the Sacramento River and the valley lands.

Evidence, Fol. 5663.

5.

The Court erred in refusing to permit the defendant to prove by the witness, William H. White, that, in his judgment, based upon personal observation, extending over a long period of years, the tailings and material now in the North Fork of the American River, between Pickering's Bar and Rice's Bridge, cannot, owing to their solidity and compactness, be moved by future floods.

Evidence, Fol. 7137.

6.

The Court erred in allowing the plaintiff, against the objection of the defendant, to withdraw the question put by plaintiff's counsel to the witness, Walter A. Skidmore, which is as follows: "Is there anything

"in your experience that will enable you to testify, "even to belief, that that quartz sand, contained in "that bottle, is not the quartz sand that comes from "the Gold Run Mine; and if there is, tell us what the "ground of that belief is, and the experience;" and erred in striking out, against the objection of the defendant, the answer of said witness to said question, which answer is as follows: "My ground of belief is "this: that the constituents of the material of that "bottle are different from the constituents of the material found at the Gold Run Mine, in the first place; "in the next place, the point is so far distant that it "don't seem reasonable to suppose that it could reach "here; and again, the matter is lodged and impacted "in that immense cañon below,"—[Here the witness was interrupted, and was not permitted to complete his answer.]

Evidence, Fol. 7737.

7.

The Court erred in refusing to permit the defendant to prove by the witness, Walter A. Skidmore, that ten per cent. of the material coming from the lower bench of the Gold Run Mine—as well that which has been washed in the last five years, as that which will hereafter be washed therefrom—cannot be transported by the water to Rice's Bridge, by reason of its weight and immovability.

Evidence, Fol. 7807.

8.

The Court erred in refusing to permit the defendant to prove by the witness, Niles Searls, what would be the effect of a total suspension of hydraulic mining in Nevada County.

Evidence, Fol. 8591.

9.

The Court erred in refusing to permit the defendant to prove by the witness, L. L. Robinson, that, in Italy, in the valley of the River Po, in a country in many respects very like California, and with a river carrying more sediment than do the rivers of California, that country has not only not been rendered uninhabitable, but that its population has been very largely increased, and that it has become one of the most fertile territories in all the world, notwithstanding the carrying of the sedimentary material in and by the river.

Evidence, Fol. 11,055-56.

10.

The Court erred in refusing to permit the defendant to prove by the witness, L. L. Robinson, that the hydraulic mining properties of the North Bloomfield Gravel Mining Company, and the Milton Mining and Water Company, in Nevada County, cost over four millions of dollars, exclusive of interest on the investment.

Evidence, Fol. 11,068.

11.

The Court erred in refusing to allow the defendant to prove by the witness, L. L. Robinson, that the present owners of the North Bloomfield and Milton hydraulic mining properties have taken from them five millions of dollars, in gold, and that their predecessors had taken out a similar amount, making ten millions of dollars as the product of those two mining properties, and that there remains yet to be taken from them fifty millions of dollars in gold.

Evidence, Fol. 11,070-71.

12.

The Court erred in refusing to permit the defendant to prove by the witness, Thomas Price, that the gold producing countries of the world are the United States, now producing annually about thirty-two millions; Russia, producing some twenty-seven millions; Australia, producing about twenty-five millions; South America and Mexico, twenty-one millions, and that the production of the balance of the world is very small—less than one million—and that the production of the California mines is over one-fifth of the entire production of the world.

Evidence, Fol. 10,463-64.

13.

The Court erred in refusing to permit the defendant to prove by the witness, Thomas Price, that from the Coon Hollow Mines, in El Dorado County, over five millions of gold have been taken, and that more than ten millions remains in these mines; that the five millions have been obtained from about forty acres in extent; that from the Blue Tent Mines, in Nevada County, one million three hundred thousand dollars have been produced, and that there remains in these mines over ten millions of dollars.

Evidence, Fol. 10,545.

14.

The Court erred in refusing to permit the defendant to prove by the witness, Thomas Price, the cost of the six thousand miles of water-ditches in the State of California, constructed for mining purposes.

Evidence, Folio 10,551.

15.

The Court erred in refusing to permit the defendant to prove by the witness, Thomas Price, that the mining and ditch property of the El Dorado Water and Deep Gravel Mining Company cost one million two hundred and fifty thousand dollars, and that the mining and ditch property of the Blue Tent Company cost eight hundred thousand dollars.

Evidence, Folio 10,552.

16.

The Court erred in refusing to permit the defendant to prove by the witness, Thomas Price, that the State of California did not raise wheat enough to ship any abroad until 1867; that prior to 1865 a very large proportion of the flour and wheat consumed in this State came from abroad, and that in 1867 we first began to ship it abroad to supply others.

Evidence, Fol. 10,558.

17.

The Court erred in refusing to permit the defendant to prove by the witness Thomas Price that stopping mining as an industry in the State would drive out from the counties engaged in that industry the entire population, and that the effect of it would be to disorganize all those counties which are devoted wholly and principally to mining as an industry; and that of the industries of the Sacramento Valley and of San Francisco, one-half are dependent upon mining in those counties where mining is an industry at the present time.

Evidence, Fol. 10,563-64.

18.

The Court erred in striking out, against the objection of the defendant, the following testimony of the witness L. L. Robinson, "Wherever there was a

"chance for this material" [meaning the heavy tailings from the mines] "to lodge, it has lodged, and remains there impacted, and I think will remain there forever."

Evidence, Fol. 11,092.

19.

The Court erred in admitting in evidence, against the objection of the defendant, the diagram made by G. F. Allardt, the same being a profile of the North Fork of the American River from Pickering's Bar to Rice's Bridge, constructed by the witness Allardt from the data contained in the table of the witness E. C. Uren.

Evidence, Fol. 12,715-17-20-25.

S. M. Wilson,
Wm. J. Wallace,
Of Counsel.

Jas. K. Byrne,
W. C. Belcher,
Attorneys for Defendant.

We hereby acknowledge due service of the foregoing proposed statement of the case on motion for a new trial in the above entitled cause: the same being contained in 45 bound volumes.

Dec 18/82 A. L. Hait atty Gen
Geo Cadwalader
Attys for Plff.
A. L. Rhodes
J. S. Belcher
of Counsel

It is hereby stipulated and agreed that the foregoing statement of the case is correct and is agreed to by the parties to said action: and the Court is hereby respectfully requested to certify and settle the same as correct; the same being contained in 45 bound volumes numbered 1 to 45 both inclusive, together with the maps and exhibits therein referred to.
Dated April 13th 1883

A. L. Rhode Geo Cadwallader
Atty for Defts

J. S. Belcher

E. R. Boyd

of Counsel

Jas. A. Byrne,
Wm. C. Belcher,
Atty for Defts.

S. M. Wilson,
Wm. J. Wallace, }
Of Counsel.

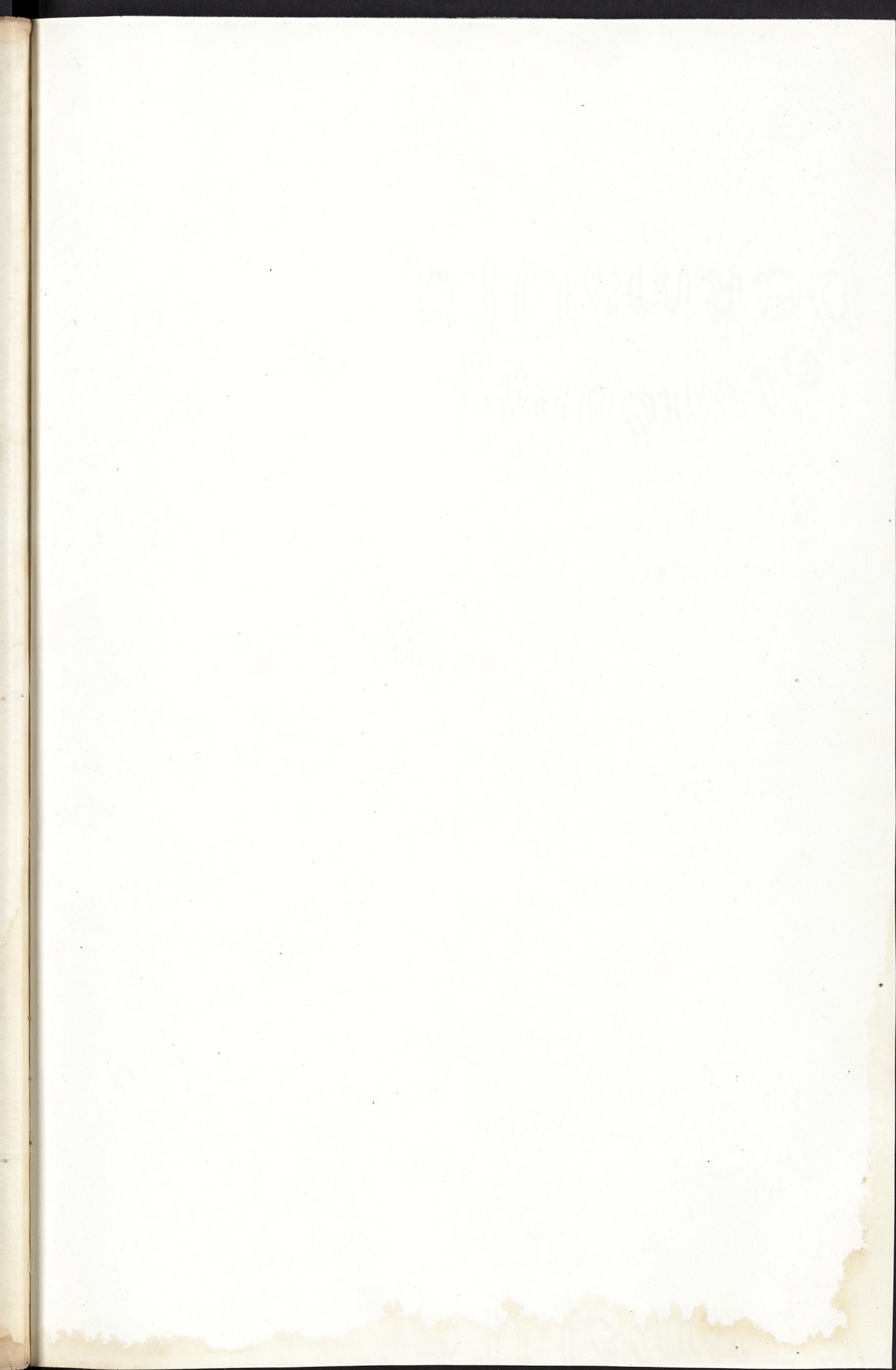
Certificate

I hereby certify that the foregoing 45
books numbered from one to forty-five
inclusive together with the maps and
Exhibits therein referred to is a correct
statement of the case on defendant's
motion for a new trial.

Dated April 14th 1883.

J. Temple

Superior Judge



Account of
the
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III

